DentEdEvolves Visit

SEMMELWEIS UNIVERSITY

BUDAPEST

FACULTY OF DENTISTRY

13 - 17 October 2001

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Part I  School Self Assessment

1.1. General introduction and description of the school

At present in Hungary the dental education takes place at four universities. Three of them are constituted as Dental Departments of the Medical Faculties. These schools are partly independent mainly in the teaching. The fourth at the Semmelweis University is a separate Faculty which was founded in 1955.

Semmelweis University consists of six faculties: Faculty of Medicine, Faculty of Dentistry, Faculty of Health Sciences, Faculty of Pharmacy, Faculty of Physical Education and Sport Sciences and College of Health Care.

Predecessor of our University was founded in 1635 by Péter Pázmány, Archbishop of Esztergom which was supplemented by the establishment of a Medical Faculty in 1769 by Empress Maria Theresa.

Hungarian dental education started in the second half of the 19th century based on general medical education. In 1908 the first Stomatological Clinic – belonging to the Medical Faculty – was founded by Árkövy, and hence stomatologists had to obtain a diploma in general medicine after six years’ studies + three years’ dental education and practice at the Stomatological Clinic. Due to the length of this form of study, resulting in a lack of stomatologists, in 1955 a Dental Faculty has been founded at the Medical University of Budapest, with an independent curriculum of five years. This form of dental education was followed later by the establishment of similar Departments in Szeged, Debrecen and Pécs.

The Faculty today has five clinical departments, one theoretical department, two training units and a technical laboratory:

- Department of Conservative Dentistry
- Department of Oral, Dental and Maxillofacial Surgery
- Department of Pedodontics and Orthodontics
- Department of Periodontology
- Department of Prosthodontics
- Department of Oral Biology
- I.Training Unit
- II.Training Unit
- Central Technical Laboratory

Faculty of Dentistry of the Semmelweis University receives (after various type of entrance examination and interviews) about 110-120 dental students each year. However, the Faculty of Dentistry accepts three groups of students who are taking the same course of study but in 3 different languages: (1) The Hungarian Group (about 60-80 students from Hungary), (2) The English Group (about 30-40 students mainly from Greece, Cyprus and Israel) and (3) The German Group (about 10-15 students from Germany or other german-
speaking countries). Further 70-80 dentists just after their graduation spend their two year resident-time at the clinics of Faculty.

The full time staff of Faculty is:

Professors: 13 (6 chairmans)
Senior staff: 8
Junior staff: 29
Others in the teaching: 33

All together are 83, so the staff-student ratio for clinical teaching is very favourable. Further teachers (87) of the Medical School are involved in the dental education.
1.2. Mission statement, primary aims and objectives of our school

The basic aim of the Dental Faculty is to provide dentists who are able to provide safe and effective dental care, who are able to diagnose, control and treat oral and dental diseases. The Faculty maintains high academic standards and a curriculum with up-to-date technical and health care requirements.

The Faculty produce graduates who is – after two more years in postgraduate training – capable of functioning effectively both in individual or group practices.

The Faculty should be the cutting edge in dental research in Hungary and through its Ph.D. doctorate programs provides highly qualified researchers for the future generations.

The Faculty monitors and facilitates Faculty Development Programs and assists the promotion of its faculty members.

The Faculty is the main field of life long continuing education and is being responsible for the scientific and professional merits of dental care in Hungary.

The Faculty is also the largest dental polyclinic in Hungary and provides most of the dental specialty care for Hungarian citizen.

The Faculty is responsible for Public Dental Health Programs and for Dental and Periodontal prophylaxes.

The Faculty’s PR activity and participation in several governmental, municipal and civil organizations and counseling bodies should serve the interest of the dental profession and also the well beings of every patient.
The teaching activities of the Faculty of Dentistry consist of 3 main parts:

1. **Gradual education of students of the University,**

2. **Two years post-gradual education programme for dentists (residents),**

3. **Continuous education programmes for dentists.**

The curriculum of the Faculty of Dentistry takes 5 years (10 semester). After the successful final examinations, the students have to write a Diploma work of chosen theme, and pass the State Exam, the successful students graduate as a **DMD.** For the independent dental practice, the young doctors have to work for two years under supervision of qualified doctors, and they have to take a licence exam. Additional qualifications are possible in the Orthodontics, Pediatric Dentistry, Dentoalveolar Surgery and Periodontics.
1.3. How we manage to achieve our aims and objectives

The curriculum of the Faculty of Dentistry takes 5 years (10 semesters). The number of the students is about 600-650 per year, the total number of hours is 5100.

The medical theoretical and clinical subjects are taught by the institutes and clinics of the Medical Faculty. The teaching programme of the first two years was almost the same on both faculties. In the first two years of the 5 years curriculum, the students study general basic subjects, similar to students of general medicine, but moderately reduced in numbers of hours and besides they study also some recently introduced subjects of special dental interests. These are: Preventive Dentistry, Dental Materials, Odontotechnology, Preclinical Conservative Dentistry. The dental students learn clinical disciplines as well as theoretical and practical dental subjects especially in the 3\textsuperscript{rd}, 4\textsuperscript{th} and 5\textsuperscript{th} years.

In the third year, education of special dental subjects starts, like Oral Biology, Oral Pathology, Oral Microbiology and practice of clinical work on simulation models. Also in the 3\textsuperscript{rd} year start the clinical subjects of general medicine. In the 4\textsuperscript{th} and 5\textsuperscript{th} year, the curriculum is dominated by the various subjects of dentistry, and their clinical practices.

As a general prerequisite the students are allowed to start a new semester when the previous was completed succesfully.

In 1994, the Visiting Committee of European Council recommended some additional modifications (accepted by the Council of the Faculty in 1996), so that the system of education of dentists at Semmelweis University should be „Euroconform”.

The treatment of patients in the clinics of the Faculty of Dentistry is organized in accordance with the teaching programs and practical activities of students. The main priority is to teach the students to do high quality clinical work. It takes time, and needs continuous supervision. The faculty has nearly 100 teachers, each of them works 10-15 hours a week in contact teaching. From the Faculty of General Medicine, approximately 18 theoretical departments and clinics take part in teaching the students of Faculty of Dentistry.

**Practices in summer**

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## CURRICULUM 2001/2002

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Budapest – School Visit
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1.4. Specific characteristics of our teaching programme
including any unusual features, innovations and facilities

Based on the recommendation of the previous EU visitation within our curriculum reform the whole curriculum of the preclinical dental training programs has been changed and many new subjects have been introduced. In the preclinical block the preventive dentistry, dental materials and odontotechnology subjects have been introduced or upgraded as separated subjects. Preventive dentistry became a three semester subjects and starts right at the first semester. This is the first dental subject that can give the freshmen some insight into clinical dentistry. In the clinical block oral pathology has been separated from general pathology and became a separate dental subject. Oral medicine has also been separated from periodontology. Oral diagnostics has recently been introduced as a separated clinical subject with exam (Earlier every clinical subject taught special aspects of diagnostical needs). An innovation was some two years ago the organization of a new synthesizing clinical subject for senior dental students, that is the so called Integrated Clinical Practice. This subject integrates the clinical practice of operative dentistry, crown and bridge prosthodontics, removable prosthodontics, endodontics and periodontology during the 9th and 10th semester. In this way students can follow up their patient during one practical course instead of having separate restorative, operative and periodontal clinical practices. For these purposes two new training units were established. One was established within the Dept. of Prosthodontic Dentistry while the other as a Dental Polyclinic in the largest teaching university hospital (Kútvölgyi Hospital Center). This second training unit has a very large turnover of dental patients. The clinical instructors are provided by the faculty of the Dept. of Conservative Dentistry and Prosthodontics. In Periodontics a literature review seminar course was introduced some two years ago for the 10th semester. During this seminar serial students are to have original dental papers to be reviewed and the latest achievements of periodontal and dental research are discussed. In Oral Biology an elective seminar serial was introduced for the third year dental students. The seminars are given by invited lecturers from other dental clinics as well as from basic science and theoretical medical departments. The elective course is finished with a multiple choice test that the student should pass to get credit. In Oral and Maxillofacial Surgery a two week hospital rotation program replaced the clinical practices in the 10th semester. The senior dental students spend 6 to 8 hours a day in the patient’s ward and in the operating theaters every day like a dental resident. In this way they can get much better insight into the everyday practice of an inpatient department and also the work ritual of an operating room.
1.5. General reference to resources (staffing administration) and facilities

Staff’s and student’s records are kept (graduations, foreign language certificates, postgraduate courses, scientific publications, lectures, teaching works, etc.) are stored in the in the Dean’s Office as well as in the proper Clinincs.

The staff records are stored in the Department of Human Policy. The personal data are handled confidential.

The Clinics and the Dean’s Office provide statistical data to the Dean as well as to the Faculty Council about the assessment of the teaching, the results of the scientific work, professional collaborations, and scientific foreign travels, etc.
1.6. Overview of research

The scientific research activity in the Faculty is mainly performed at the Department of Oral Biology and also in the form of collaborations with different theoretical Departments. The staff of the Faculty includes several doctors of PhD, three Doctors of Sciences, and besides several teachers of Faculty of General Medicine have scientific degrees, who also take part in teaching in Dentistry.

The Faculty has its own scientific program for PhD candidates „Researches in Dental Sciences” as well as a scientific board, who try to arrange financial possibilities for scientific work. The Faculty has more than 30 students for PhD candidates for every year. The scientific activity involve several collaborations with most of European Countries as well as many of Institutions of U.S.A. This scientific connections involve exchange of scientists and cooperations in organizing scientific congresses.

Academic persons in full time position take part in teaching as well as in research work. Their overall time is evenly divided between teaching/administration and research. All of the staff members are familiar with the latest dental literature, therefore nearly all of the modern techniques and materials are taught during both practical and theoretical lessons. Part-time teachers mainly involved in preclinical or clinical teaching may not have a research obligation, but should be orientated towards critical thinking and be equipped with skills to evaluate research and convert it into applicable knowledge. Because of the time available for research is too short, therefore the quantity and quality of the outcome of the research work could be improved. Sorry to say, the financial background for the Faculty is limited, however we manage to allocate a separated amount for only research purposes.

Salary levels for full time academic faculty members are not adequate to ensure the necessary recruitment of competent faculty members.

The leading staff members of Faculty have functions in the Hungarian Dental Association as chairmans or other leading responsibilities. Some of them are members of Editorial Boards of International Scientific Journals.

Research is also integrated into the undergraduate curriculum. Our University has a program for students under the name „Students’ Scientific Circle”. The results of its scientific work are presented each year in the Students’ Scientific Congress. At the end of the curriculum each student has to write a „Diplome Work”which is based on the latest scientific data.
1. 7. How we cope with continuous improvement of quality in teaching, research and patient services

The quality and the content of the teaching are controlled by the directors of Clinics and Departments as well as the professors and lecturers of the subjects. Every year the students also assess their curriculum, the semester programme and their teachers as well.

In the Faculty Committee Meetings the Dean of the Faculty and the leaders of the Departments regularly give reports about their teaching and research activity.

The members of the Faculty Committee get information about the examinations scores of students every semester.

The Faculty has a Committee for the Research Work, which decides the basic principles and requirements of the research work every year and also register the results of it. The Committee has access to a separate financial background for the research from which it gives support for the staff of the Faculty based on their application.

The patients service in the Clinics is performed according to the International Standard Organisation (ISO) 2002.
1.8. CONCLUDING PARAGRAPH

In conclusion the present, most significant strengths and weaknesses of our schools’ programme might be identified in the followings:

- A strong, widely extended theoretical programme in the first two years: the teaching of basic sciences is only little less, than that of the Medical Faculty, however, it is complemented with dental aspects.

- The teaching of theory and practice of general medical subjects is considerable, aiming to develop medical thinking and aspects of the dentists, as future members of the health care team.

- Clinical dentistry is practiced on human patients from the third year on. Thus, complementing the use of phantoms and manekins in dental treatments, due to the great number of patients seeking dental care, the students can acquire good clinical skills by the end of their studies.

- The recently introduced, mandatory residency period of two years (comparable to the vocational training in U.K.) helps to improve clinical skills in practice, and to control theoretical knowledge by regular postgraduate courses.

- The lack of a central Faculty building and Campus severely inhibits coordination of the different units, and makes contacts, as well as the full introduction of integrated dental care (comprehensive dentistry) very difficult.

- There is no Central Library at the Faculty, some clinics are only in possession of books and journals in their field, however, the regular reading of overall dental journals in one place is not possible. This is a great obstacle also for scientific studies.

- There are no laboratories attached to the clinics intended for-, and to offer the possibility for scientific investigations.

- The Faculty has no possibilities for the employment of basic scientists (biologists, chemists, microbiologists, etc.) to help the staff members in their scientific investigations.

- The scientific output of the Faculty is comparable with the most European Dental Schools. There are marked differences between the departments.
2. 1. Clinical facilities

The five clinical departments of the Dental Faculty are housed in six different buildings. Some clinical disciplines are housed in more than one area. These old buildings were not designed for the current function of the clinics, and are from each other at considerable walking distance, which is not favourable for patients referral and comprehensive care.

The clinical departments give services for out-patients only, except the Clinic of Oral and Maxillo-Facial Surgery, where 30 beds are available for hospitalized patients. The majority of the patients are treated in the frame of teaching programmes, partly in the form of patients’ case demonstrations, the greater part by students under the tutor’s supervision. Most of the Clinics have a large patient’s material, due to referrals, and favourable financial conditions for the treatments by students (Prosthodontics, Periodontology). The Clinic of Pediatric Dentistry and Orthodontics provides regular care for school classes, which also offers sufficient hands-on treatment possibilities for the dental students.

The Faculty’s Clinics have about 100 dental units, a part of those reaching the European standards. Some clinics have been renovated recently and reequipped to modern standards, where also four-handed dentistry is taught and practiced. However, the majority of the Clinics would need reequipment and renovation.

A fortunate exception is the building of the Oral Surgery Clinic, which is under complete reconstruction, and will be soon finished. To the old building (the first European Stomatological Clinic founded by Árkövy in 1908) a third floor will be added, new elevators and air-conditioning system. The new surgical theatre and central sterilization unit will be supplemented with a postoperative care centre. Modern lecture rooms are built. (At present the Faculty’s single great lecture room belonged also to this building). Audiovisual teaching facilities will be renewed, and attached to the integrated Computer Network System of the University, having access to Internet.

The Phantom-head Preclinical Laboratory is utilized by both the Conservative Dentistry and Prosthetic Department. We also have some manekins for simulated treatments in clinical dental chairs, however, due to lack of space, these can be not regularly used. There is no computer simulation model-equipment in preclinical dentistry.

Strengths:

Each of the clinics participates in the national health care system. A relatively high number of patients can be examined and treated by students. A well-experienced staff is helping the undergraduate clinical activity of the students. In international comparison, the clinical practical teaching is good and the patients treated are more numerous than in most of the other countries.
Weaknesses:

The dispersion of the clinics in different sites impedes real integrated patient treatment, with the participation of all disciplines. The clinics are in lack of space, and overcrowded. Due to that, there is no box-system for the individual dental treatment places, and privacy cannot be provided, neither for the patient, nor for the dentist. Comprehensive care in the last study year, as it should be, cannot be realized. By thus, the departmental separation is still strong. There are no conference rooms, for seminars, to discuss cases with the teacher, and therefore PBL could not be considered hitherto.

Innovation:

The reconstruction of the Oral Surgery Clinic involves also a new outpatients department, which could offer new opportunities for minor dental surgery. Theoretical course of oral implantology is visited by many students. Technical background and the introduction of computerized analysis of cephalograms is planned.
2.2 Teaching Facilities

At the Dental Faculty several traditional and modern technological equipment are available to help the teaching.

**Equipment:**
Faculty ensures for the staff, students and researchers central lecture hall with television sets and video system, projectors, overhead projectors and computer projectors.

**Basic sciences** and knowledge are taught in the laboratories and seminars with relevant equipment to the subject.

**Pre-clinical work** is done on phantom-heads where students learn and practice restorative dentistry, endodontics and prosthetic interventions.

**Clinical work** - modern dental units for students in order to fulfil the requirements for clinical training.

Recommended literature (books, handbooks, dental journals) in Hungarian, English and German language is available for dental students.

Students receive books and handbooks at a reduced price.

**Supply:**
The staff, students and researchers can access quality research material from collections of Library.

**Strengths:**
- WEB system works all over the University.

Internet can be used throughout the University and can be provided for every staff even at home.

Dental students are offered Internet at central Library, where the newest investigations, results on medline can be found.

- Some clinics have up-to-date photo technical apparatus (digital cameras).

**Weaknesses:**
Modern technological facilities are provided at each clinic but the number of them is limited due to financial problems.

In some of the clinics dental units for teaching are not separated into boxes

**Best practices:**
to accomplish the highest demands that are necessary using long-time experiences and high
technology to make teaching colourful and interesting.

**Innovations:**
Some of the departments and laboratories at the Dental Faculty have the ISO-qualification and for the other departments that is in process.
2.3. Teaching Laboratories

2.3.1. Pre-clinical laboratory course.

Pre-clinical operative dentistry is taught in the 4th and 5th semester, using weekly lectures and practical phantom head exercises.

**Primary aim** is to provide the students a good knowledge on fundamental principles and techniques in operative dentistry and endodontics.

The **objectives** of this course in pre-clinical cavity preparation are to teach the principles and practice of cavity preparation for restorations with amalgam and tooth-coloured materials. Specifically, to complete the course successfully it is required to meet these objectives:

1. Preparation of both plastic and natural teeth with simulated carious lesions according to stated criteria and within a stated time.

2. Demonstration of the ability to correctly evaluate cavity preparations that meet and do not meet the stated criteria.

3. Demonstrate on a paper and pencil test knowledge of the principles of cavity preparation presented in the course.

4. Demonstrate the ability to transfer knowledge of cavity preparation principles and procedures to tooth surfaces not previously studied in the course.

5. In the same laboratory the students make dentures with the help of the teachers and dental technicians.

6. In the same phantom heads with special insertions the students do special extraction practice. During this practice they learn washing-up and the surgical suture-techniques.

Acceptable skill, competence and responsibility are also required from students arriving to the end of conservative dentistry, prosthodontics and oral surgery programs.

Hours in 4th and 5th semesters: lectures (1 hour/week); laboratory practices (3 hours/week) during pre-clinical (phantom) courses 3 midterm

For assessing pre-clinical practical work we employ the following qualifications: the “outstanding, meet requirements and not acceptable”.

The **strengths** of the preclinical course are the following: that a variety of elements be used in combination, syllabus, exercises and model study, cavity and root canal preparation practices, and evaluation, the faculty members of the Department of Conservative Dentistry are involved as lecturer and supervisor (instructors, assistant professors, associate professors and full professor). Each element contributes to learning; none is adequate by itself.
Weaknesses the inadequacy of motion pictures which orient to the cavity preparation procedure being taught and demonstrate the skills and techniques required. On the other hand the syllabus (lecture notes) are out of date.
2.4. Research laboratories

The basis of research activities at the Faculty of Dentistry started recently with a new Ph.D. program entitled Dental Research". This program is one of the programs offered by the School of Ph.D. "Studies, Semmelweis University. The goal of this program is to produce graduates who are adept, well-grounded in research and the biological basis of their specialty and prepared to function at a high level of accomplishment in academic dentistry.

The program introduced in 1997 has four subprograms as follows:

Clinico-pathological studies of diseases of the oral cavity,
Physiology and pathology of blood flow regulation in the oral structures: circulatory disorders and measures for the therapy,
Experimental oral biology,
Application of analogous tissues and biocompatible materials in restoration of maxillofacial and oral structures.

Until now Ph.D. degree was awarded by the School of Ph.D. Studies, Semmelweis University to two candidates upon completion of all the requirements of "Dental Research" program.

Weaknesses and Strengths

The research capacity of Faculty Departments is rather limited. At the clinical departments there is no area for laboratories and no instruments are available for academic research. Only research projects dealing with clinical patients can be conducted successfully. The Department of Oral Biology is the headquarter of academic dental research. However, the main interesting field of faculties at the Dept. of Oral Biology focuses mainly on the physiology and pathology of salivary glands.

In order to improve the poor research facilities of the Dental Faculty excellent collaboration has been developed with Departments belonging to Faculty of Medicine and other Institutions.

Examples of interdepartmental activities:
Dept. of Conservative Dentistry and Depts. of Physiology, Pathophysiology, Microbiology.

Example of collaboration with other Institution:
Dept. of Oral Biology and Institute of Experimental Medicine, Hungarian Academy of Sciences.
Those collaborations are the strength of "Dental Research" program that results in the acceptance of numerous original manuscripts for publication in common.

**Best Practices**

The number of students of "Dental Research" program in the past four years: 37.
The faculty's educational philosophy encourages individuals obtaining Doctor of Philosophy (Ph.D.) degree to join Faculty of Dentistry and work as full time educator.

**Innovations**

Most of the results obtained in research laboratories of the Faculty are published in international, peer reviewed scientific journals.
2. 5 Library

Name of responsible: Ildiko Mártontffy
Gabor Nagy

Available Libraries in the Dental Faculty of the Semmelweis University

Central Library

The Central Library of Semmelweis University was founded in 1828 by Schordann Zsigmond. Among its doctorpresidents there was Ignác Semmelweis as well. Its collection is made up of donations and bequests, all of them are treasured pieces even today of both the Library and Archives. In 1884 it was moved into the "Ülői út" main building as the Library of Medical Faculty Staff Members of the Royal Hungarian Budapest University, the biggest medical public collection of Hungary. In 1968 it was named the Central Library of the Semmelweis Medical University. In 1982 an open-shelf reading room and in 1992 a new organizational unit, the Archives were added to it. In 1994 an Information Centre was founded which is ready to serve the visitors 65 hours every week.

The task of the Central Library is to support with its activity the education, research and the medical services, and to provide the relevant quality literature to the university members and other scholars. The quick, accurate, economic and up-to-date collecting, cataloguing is well organized. Basic activities of the Library include the archives, the organizational unit and its services.

The Semmelweis University Central Library serves primarily as the methodological and professional centre of the medical, dental and pharmaceutical science in Hungary, secondly it supports the 48 institutional and clinical libraries of the Semmelweis University. Central Library performs professional assistance for providing the proper literature, organizes courses on using the recent databases and helps with inter-library borrowings. The functions are governed by the Functional and Organizational Regulations.

Computerized Databases, Links, Archives, Electronic Journals of the Central Library are enclosed

Libraries of the Dental Faculty

The Dental Faculty has two clinical libraries, one belongs to the Department of Oral Surgery, the second one is placed in the building of the Department of Prosthodontics and the Department of Conservative Dentistry both of them are supported by the Central Library. Most of the well known dental journals are available. The libraries have about 5372 books and todays 23 different journals (15 international and 8 national).
Both libraries have their own librarians who help to find the proper way to the needed literature not only in the Faculty but also in the Central Library, or in any libraries in Hungary to the teaching staff and to the students of the Faculty. The acquisition of the books and journals is carried out by the Central Library according to the suggestion of the heads of the departments.

These two libraries are relatively small. The recent papers are available only by the help of the librarians, because most of them can not be found in the clinical libraries, but the well qualified librarians try their bests. The Faculty should have a better organized and better supplied centralized library, but it is limited by the poor economical support.
2. 6. Computer networks
Person who will explain: Dr. Péter Gál

Network
All of the Departments and Clinics are the part of the University Network. They can directly connect to the optical cable. Every unit has an own server. All of these servers have Novell Netware softver.

Internet communication
All of the staff members of the Clinics and Department as well as the students can use it. All of them can also use the e-mail. Every Department and Clinic has a supervisor person who is responsible for the network and manages it with collaboration the Centre of the Information.

Using fields
The most important field is the connection with the library, all of our staff and students can be connected with it using in their teaching, learning resources, scientific work.
All of the general informations, administrations belonging to the education (timetable, telefonbook, books, the lecture places, etc) are available by it.
The whole administration of the students are computerized, as well as the Faculty of Dentistry. The personal data, the marks, supports of the students are on computer.
The administration of the patients in the Clinics is also on the computer. So these data are the base for some scientific work.
In this year our Faculty starts the education of the diagnostic by modern informatic network, a camera in the oral cavity is directly added to the computer network. One of our Clinic introduces digital camera possibilities for the students for case demonstration, it is compulsory for all of the students.

Data
The Faculty of Dentistry has nine local networks with own servers. Alltogether 112 computers are connected to the network. 65 from these are totally suitable (Internet, multimedia possibilities), 47 can be used only for administration work. Four dia slide makers are in the Faculty for the demonstration. Laser and ink-jet printers are available in all units.
3. Organisation and administrative structures

Person in School who will explain and show:
Dr. András Kóbó,

The organisational structure:
4. STAFFING

Person in school who will explain and show this to the visitors:

Dr. András Kóbor, Head of the Administration of Dean Office

List of Staff

Oral Biology
Tivadar Zelles DMD., PhD.  Head of Department
Ildikó Boros, DMD, Ph.D.  full professor
Gábor Nagy MD, Ph.D.  associate professor
György Simon, DMD, PhD.  full professor
Péter Keszler, DMD, Ph.D.  senior research associate
Gábor Varga, DSc.  full professor
József Blazsek, DMD, Ph.D.  senior lecturer
Veronika Gresz, DMD,  lecturer
Jolán Bánóczy, MD, Ph. D. DSc.  emeritus professor

Clinics of Peridontology
István Gera DMD, PhD.  Head of Department
György Kövesi, DMD, PhD.  associate professor
Ferenc Döri, DMD,  senior lecturer
Tibor Keglevich, DMD,  senior lecturer
Erika Benedek, DMD, PhD.  senior lecturer retired
Emese Szilágyi, DMD,  clinical doctor
Lilla Ratkóczy, DMD  clinical doctor
Péter Windisch, DMD, PhD.  student

Clinics of Oral Surgery and Stomatolgy
György Szabó, DMD, DSc.  Head of Department
Tamás Divinyi, DMD, PhD.  full professor
Zsuzsanna Šuba, DMD, PhD. associate professor
József Barabás, DMD, PhD.  associate professor
Gábor Simon B. DMD,  senior lecturer
Judit Jancsó, DMD  senior lecurer
Katalin Mártonffy, DMD  senior lecurer
Emese Fülöp, DMD  senior lecurer
Attila Fodor, DMD  senior lecurer
Szabolcs Gyulai-Gaál DMD,  senior lecurer
Levente Pataky, DMD  senior lecurer
Márta Ujpál, DMD  senior lecurer
Zsolt Németh, DMD  senior lecurer
Attila Szücs DMD  senior lecurer
Tamás Vizkelety, DMD  lecturer
Judit Klock, DMD  lecturer
Árpád Joób F., DMD  lecturer
Gusztáv Klenk, DMD  lecturer
Norbert Velich, MD,  clinical doctor
Tamás Huszár, DMD  clinical doctor
Clinic of Prosthodontics
Pál Fejérđy, DMD, PhD. Head of Department
Tibor Fábián, DMD, PhD. full professor
Milós Kaán, DMD, PhD. full professor
Pál Tóth, DMD, PhD. associate professor
Mihály Csomá, DMD, senior lecturer, retired
Endre Somogyi, DMD senior lecturer
Katalin Szőllősi, DMD, PhD. senior lecturer
János Gerle, DMD senior lecturer
László Kádár, DMD, senior lecturer
András Kóbó, DMD, PhD, senior lecturer
Péter Kívovics, DMD, PhD. senior lecturer
Tibor Károly Fábián, DMD senior lecturer
Pál Sajgó DMD lecturer
Katalin Károlyházi DMD lecturer
Marianna Jáhn DMD lecturer
Péter Herman DMD lecturer
Katalin Kalocsai DMD lecturer
Borbála Kaán M.D. lecturer
Imre Esztári DMD lecturer
Judit Gáspár DMD lecturer
Krisztina Márton DMD lecturer
Zsuzsanna Tóth DMD lecturer
Péter Czigler, DMD clinical doctor
Péter Faluhelyi DMD clinical doctor
László Fejérđy DMD clinical doctor
Judit Koloszár DMD clinical doctor
Mercedes Linninger DMD clinical doctor
Katalin Nemes DMD clinical doctor
Géza Kovács D. DMD specialist advisor
György Huszár DMD specialist advisor
Péter Gál informatics advisor
Lukács Biró DMD faculty junior lecturer
Tibor Dénes DMD faculty junior lecturer
Barbara Kispélyi DMD faculty junior lecturer
Péter Laukó DMD faculty junior lecturer
Attila Lesti DMD faculty junior lecturer

Conservative Dentistry
Árpád Fazekas, DMD, D.Sc. head of department
Ida Nyárasdy, DMD, PhD. associate professor
Mária Albrecht, DMD, PhD. associate professor
Károly Bartha, DMD, PhD. senior lecturer
Júlia Nemes DMD, senior lecturer
Zsuzsanna Tóth DMD, Ph. D. senior lecturer
Adrienne Győrffy DMD, PhD. senior lecturer
Anna Herczeg DMD, lecturer
Ágnes Balogh DMD, lecturer
Csilla Csikány DMD, lecturer
Ágnes Grigár DMD, lecturer
Beáta Kerémi DMD, lecturer
Zsuzsanna Csabai DMD, clinical doctor
Gábor Kiss DMD, clinical doctor
Márta Csillag DMD, clinical doctor
Eszter Kohut DMD, clinical doctor
Edit Marosi DMD, clinical doctor
Gabriella Nyíri DMD, clinical doctor
Levente Pataky DMD, clinical doctor
Eszter Veszprémi DMD, clinical doctor
Helga Zaklanovics DMD, clinical doctor
Ildikó Marosi DMD, clinical doctor
István Veress DMD, clinical doctor

Clinic of Pediatrics and Orthodontics
Ildikó Tarján DMD, PhD, head of department
Gyula Hidasi DMD, PhD, full professor
Katalin Gábris DMD, PhD, senior lecturer
Ibolya Kéri DMD, senior lecturer
Péter Balaton DMD, senior lecturer
István Szívós DMD, senior lecturer
Ferenc Konrád DMD, senior lecturer
Gábor Fábián DMD, senior lecturer
Miklós Kaán DMD, senior lecturer
Emese Frang DMD, lecturer
Gergely Balaton DMD, lecturer
Péter Csiki DMD, lecturer
Anikó Hárs DMD, lecturer
George Razouk DMD, lecturer
Noémi Rózsa DMD, lecturer
Beáta Szádeczky DMD, clinical doctor
Katalin Mavrodisz DMD, clinical doctor
Kais Salman DMD, clinical doctor
Tamás Szakály DMD, clinical doctor
5. 1. A. Medical Chemistry

Person in School who will explain and show this to the visitors:
Name: Dr. Miklós TÓTH, professor of biochemistry
E-mail: totmik@puskin.sote.hu

1. Introduction: The course and its timing in the curriculum

Medical Chemistry is taught in the first semester of the medical curriculum. Its main purpose is to summarize and elucidate the basic chemical knowledge that is considered to be fundamental for further progress of students of dental medicine. Medical chemistry is especially important for such courses as medical biochemistry, molecular biology, medical physiology, oral biology, pathobiochemistry, pathophysiology, pharmacology, materials and substances used in dental medicine and clinical chemistry. This subject is a kind of applied chemistry which comprises a theoretical part presented in lectures and discussed in consultations and a practical part in the framework of which students are given the opportunity to acquire basic laboratory skills, exercise laboratory procedures, learn how to handle basic chemical calculations and try to integrate the theoretical and practical aspects of medical chemistry. Chemical knowledge of first year students, just admitted to the university, is fairly heterogeneous both in terms of topics and the level of knowledge. Even those students who have studied chemistry in high school are missing sufficient information on the medical aspects of chemistry and need assistance and explanations in order to make an easier further progress in dental medicine in general and medical chemistry in particular.

The course of medical chemistry includes selected chapters of general chemistry, bioorganic chemistry and bio-inorganic chemistry.

2. Primary aims

1. Our aim is to provide an integrated information on medical chemistry which can serve as a firm base for students learning dental medicine in the comprehension and adequate application of chemical laws, rules and skills in their later studies of various medical subjects.
2. We would like to substantiate and demonstrate in an illustrative fashion the central position of chemistry in modern medicine and emphasize the driving force it may represent nowadays for the incredible development of general and dental medicine.

3. Main objectives

Our efforts are directed for the elucidation of chemical laws, definitions and rules as well as their most relevant medical applications in the following fields:
1. Site of chemistry in medical sciences, past, present and future.
2. Chemical laws of solutions and electrolytes.
4. Biomedical significance and mechanism of action of various buffer systems.
5. Energetic aspects of chemical reactions: basics of thermochemistry and thermodynamics.
6. Kinetic laws of chemical reactions
7. Chemistry of redox reactions, electrochemistry
10. Importance of inorganic compounds and elements in dental structures and dental practice.

4. Hours in the Curriculum
There are 2 lectures per week for the 15 week semester. Each lecture lasts 70 minutes. Students have laboratory practice and consultation hours in the same time, one occasion per week for the 15 week semester. Each practice and/or consultation lasts 160 minutes.

5. Method of learning/teaching
Theoretical aspects of medical chemistry are presented by qualified lecturers in an auditorial hall. Appropriate equipments, such as overhead projectors, computer assisted beamers, slide projectors, structural models, loudspeaker system, blackboards are available for efficient presentations and high quality illustrations. There is access to many of the topics on the internet under the homepage of the department. Learning is assisted by handouts and printouts which can be copied in the students center. In addition to practical work, time is devoted regularly to consultations and discussions during the weekly get together in the students laboratory for each dentistry student group. Efficient studies are promoted by high level books and manuscripts written partly by eminent educators and instructors of the department utilizing their immense experience obtained and accumulated during decades in teaching medical chemistry at this university.

6. Assessment methods
In order to ensure continuous learning there are two midterm tests during the semester. In addition at the end of the semester students are required to give an account on their skills and knowledge of their practical abilities. At the end of the semester we held final examinations to terminate the
curriculum. This exam consists of a written and an oral part. The written part follows the multiple choice system. As many as 60 questions are given and are requested to be answered. Students should select between 5 possible answers. The student has to select one answer for each question and designate it by crossing out the appropriate letter code on a separate score sheet. At and above 30 correct answers the exam is regarded successful and the score achieved is added to the so called bonus points to obtain the final score. The bonus points are derived as the sum of the results of the midterm tests and the final practical test. Each of them is rated by 0 - 5 points, therefore the maximum number of bonus points could be 3 times 5, that is 15. There is no possibility to get zero point because passing at least one of the midterm tests is compulsory. The final grade given to the written exam is established on the basis of predetermined score brackets. In the oral part of the exam 4 questions are picked up randomly by the examinee. The students are aware of the question list from which they are requested to select well in advance prior to the exam, so they can prepare adequately. The four questions are from general, bioorganic and bio-inorganic chemistry and from chemical practice, one from each of these topics. The oral examination lasts about for 30 min and each answer is rated by 1 to 5 points. The final grade is obtained on the basis of the results of the two parts of the exam. Successful passing on the written exam is not a prerequisite to the oral part, but those students who failed at the written part are examined in a more detailed manner to obtain necessary information about their level of knowledge.

7. Strengths
The strengths of our chemical education is the high experience of our teaching staff, the appropriate teaching aids and equipments for teaching and for laboratory practice and the rigorous yet friendly assessment system. Many members of our teaching staff are eminent research workers and investigators and are able to translate the abstract definitions of chemistry to languages of real life and everyday medicine.

8. Weaknesses
Shortage in appropriate number of seminar rooms hampers a better adaptation to the needs of students in terms of consultations and time point of midterm tests. The influence of the course master on the selection of lecturers and examiners and advise them on their activity is limited because the final decision in these questions (in accord with the Rules of Operation and Organization of the University) is in the hand of the head of the department. Cooperation in teaching activities between our department and other departments of the Faculty of Dental Medicine is also poor and inefficient.
9. Innovations and Best Practices

1. The activity of a well-trained, experienced teaching staff.
2. Inclusion of an increasing number of biomedical and dental medical illustrations and examples in the course of chemistry teaching.
3. An appropriate level laboratory work makes it possible to teach the most important laboratory skills.
4. The unique and highly reliable evaluation system.
5. An up to date and adequate list of printed materials, a book of General Chemistry and manuscripts on bioorganic and bio-inorganic chemistry, as well as on laboratory practice and on the use of chemical calculations in solving medical problems.

10. Plans for future changes

We plan to make our course more medical by stressing further the biomedical and dentistry related aspects of chemistry and make thereby the course more attractive and more digestable to the students. We will make an attempt to coordinate better those aspects of the subject that are intimately related with the practice of dental medicine.

12. Teaching staff

Miklós Tóth M.D., Ph.D., D.Sc. full professor  E-mail: totmik@puskin.sote.hu
András Hrabák, Ph.D., docent  E-mail: hrabak@puskin.sote.hu
György Mészáros, Ph.D., docent  E-mail: meszaros@puskin.sote.hu
Nándor Müllner, Ph.D., adjunct professor  E-mail: mullner@puskin.sote.hu
Magda Solymossy, Ph.D., adjunct professor  E-mail: -
Tatjana Szpaszokukockajá, Ph.D.  chief scientific associate  E-mail: spas@puskin.sote.hu
Miklós Csala, M.D., Ph.D., assistant professor  E-mail: csala@puskin.sote.hu
Szabolcs Sipeki, M.D., Ph.D., assistant professor  E-mail: sipeki@puskin.sote.hu
Csaba Söti, M.D., assistant professor  E-mail: csaba@puskin.sote.hu
Martha Stroe, instructor  E-mail: smarta@puskin.sote.hu
5.1. B. BIOCHEMISTRY

Name: Professor Maria STAUB M.D., Ph.D., Sc.D.
e-mail: Staub@puskin.sote.hu

The course and its timing in the curriculum

The name of the course: Medical Biochemistry

Introduction, timing of the course:
3 semesters in the first and in the second years of the curriculum.

Lectures:
1st Semester: \(15 \times 2 \times 1.25 = 37.5\) hrs
2nd Semester: \(15 \times 2 \times 1.5 = 45\) hrs
3rd Semester: \(15 \times 2 \times 1.5 = 45\) hrs

Laboratory practices:
15x1x3 = 45 hrs/ each semester
Total hrs: 217.5 hrs/ three semester

Primary Aims

Our course, Biochemistry and the bases of Molecular Biology were (still are) the most rapidly
developing research area of the last half century, awarded by more than 90% of Nobel prices in
the Medicine. The increasing importance of basic sciences in the “case oriented” medicine are
essential for all of specialised part in the curriculum.

Our course has to give a solid and broad knowledge at the molecular level how is functioning a
living cell, an organism and a human being. Only with such a basic knowledge can be declared
toxic and also the therapeutic effects of substances influencing the human during the whole life.

Main objectives:

Basic biochemistry:
Primary, secondary and tertiary structure of polypeptide chains. Structure of specific proteins,
haemoglobin, immunoglobulins, collagens etc. Their function in the specific tissues. Enzymes,
characteristics of enzyme catalysed reactions, specific inhibitors, allosteric enzymes,
conformational changes, functions during metabolism.

Basic structure of nucleic acids: DNA structure, determination of inherited properties,
conformational changes determined by nucleotide sequences, strand hybridisation used in gene
technology. Structure and function of RNA molecules in cells.

The biosynthesis of cellular macromolecules: DNA replication, enzymes, the reparation processes
of the demaged DNA, connection with cancer. The transcription of mRNA, tRNA and rRNA, the
splicing of mRNA. The translation of the mRNA into proteins, molecular processes, inhibitors of protein synthesis.

The regulation of eukaryotic cell cycle, transcription regulation, growth factors etc.

The intermediary metabolism:

bioenergetics: oxidation and oxidative phosphorylation

metabolism of carbohydrates

metabolism of lipids, aminoacids, purine-pyrimidine nucleotides

digestive processes, bile acids

regulation of the intermediary metabolism, function of the liver.

Regulatory processes:

action of hormones, signal transduction pathways

Molecular processes in specific tissues:

muscle contraction

exa-cellular matrix proteins

neuro-chemistry

chemical structure of dental substances, function of osteo-clast

and osteo-blast cells.

**Hours in curriculum**

Total hours 217.5 per three semester, see 1.

**Method of learning/teaching**

a./ Lectures: projection by computers.

Introduce and support the basic statements with examples from the medical practice. Convince the students about the medical importance of the basic sciences with examples from the pathology.

b./ Learning: to stress students for continuous learning the difficult material we have seminars. Special topics will be asked in short questions from students in written form (Midterms), which are obligatory.

c./ Students are giving short seminars about topics fixed before.

**Assessment methods:**

a./ Midterms from short parts of the subjects heard at the lectures:

2 in 1st semester 6-6 in the 2nd and 3rd semesters

b./ Semifinal examinations are at the end of the 1st and 2nd semester

c./ Final examination is at the end of the 3 semester course.

**Strengths:** The continuous “refreshment” of our teaching with the new, but solid findings, statements of the scientific discoveries.
The continuous, living contact with our students, to follow the lectures, to press them for learning (midterms), which gives much more work for teachers.

The best English books written for medical students are available for teachers. (Lehninger, Stryer, Devlin, Harper etc. The newest editions)

Students have a newly (2001) edited book of Medical Biochemistry, based on our several years teaching practice and research work of the senior staff in the institute.

8. Weaknesses: short of time, few of hrs in the curriculum
   poor equipment and support of the laboratory practices.
   Too many students per one teacher

Innovation and best practices:
   New laboratories and rooms for seminars would be needed and more financial support to introduce new biochemical and molecular biological methods.
   Best practices: are enzyme kinetic measurements
                   enzyme determinations with clinical relevance, which are not too expensive, need not too long time.

10. Plans for future:
    Depends on the possibilities. The topic of the curriculum might be increased by special dental biochemical problems, if the number of hrs could be increased.

12. Append staff names: 12 teachers, most with M.D. plus Ph.D., with several years practice in teaching medical students
5. 2. MOLECULAR BIOLOGY

Person in School who will explain and show this to the visitors:
Name: Dr. Péter Kovács
e-mail: kovpet@dgci.sote.hu

1. Introduction

The 'molecular biology' contains the following disciplines:
- organization of pro- and eukaryotic genom;
- cell nucleus in structure and function (DNA, DNA replication, RNA, RNA-synthesis, RNA-processing);
- gen regulatory DNA sequences, gen regulatory proteins;
- main steps of translation, protein sorting;
- methods of molecular biology and molecular genetics (types of cloning techniques, recombinant DNA technologies).

The first semester (cytology) contains the first part of molecular biology, and the second semester consists the molecular genetical methods.

Primary Aims

Make acquaintance with the theory of up-to-date molecular biological knowledge to the understanding the modern cytology, developmental biology and genetics.

A working practical knowledge of the molecular biological methods in the cytology, developmental biology and cytogenetics.

3. Main Objectives

Structure and function of nucleic acids.
Synthesis and processing of RNA.
Gen-regulatory systems in the pro- and eukaryotic organisms.
The molecular aspects of different kind of diseases.
Molecular aspects of cellular traffic;
Recombinant DNA technologies, cloning strategies.

4. Hours in the Curriculum

The first part of subject is belonging to the first semester (cytology), and the second part to the second semester (genetics). 1.5 h lecture and 1.5 h practice per week in the first semester; 1 h. lecture and 1.5 h practice per week in the second semester.

5. Method

The subject has theoretical (lecture) and laboratory (practical) parts.
The lectures contain the up-to-date theoretical informations of different fields of above mentioned
themes. Over and above from the lecture notes and books the students get hand-outs from the lectures.

In the practice we are working mostly with histological sections, with different kind of histochemical reactions, which makes the demonstration of different molecular aspects of cells possible. The practice makes the consultation between the students and teachers possible. By the help of CD it is possible to recognize and examine the microscopical slides.

6. Assessment
The assessment means midterms (‘demonstration’, oral examination and test) in the middle part of first and second semesters, examination at the end of semester (‘kolloqium’; oral) and final exam at the end of second semester, which consists of theoretical and practical parts (oral).

7. Strengths
The strengths of course ‘MOLECULAR BIOLOGY’ are the up-to-date informations about the subject. We are using the informations systems as eg. ‘Med LINE’, and from these sources we are writing hand-outs, which contain short informations about the latest results of new experiments, and about the possible use of these results in the modern medical praxis.

8. Weakness
Weakness is the lack of some new teaching instruments, as computerized systems (CD, video, etc.), and the relative high number of students in one lab, which sometimes hinder the effective teacher – student communications.

9. Innovations
Innovations: we are trying to obtain the desirable teaching systems (videos, etc.). We are always making new aids to the learning of genetics (eg. CD-s about microscopic slides, methods, and hand-outs about theoretical part of molecular biology).

10. Plans for future
In the future we would like to teach more about the modern aspects of molecular biology of different diseases, about the new diagnostical use of molecular biological methods, and about the understanding of molecular basis of normal and pathological cellular phenomena.

Head of Department: Prof. Dr. András Falus, room 717 (7th floor), NET Building, 1445 Budapest, Nagyvárad tér 4.

Tutor of English students: Dr. Valéria László, room 618 (6th floor), NET Building.
5. 3. GENETICS

Person in School who will explain and show this to the visitors:
Name: Dr. Péter Kovács
e-mail: kovpet@dgci.sote.hu

1. Introduction
The course of ‘GENETICS’ contains in our Department the following theoretical disciplines:
classical Mendelian genetics;
molecular genetics;
cytogenetics;
human genetics; sex-linked inheritance; female and male sex determinations; mitochondrial inheritance;
genetical aspects of normal and pathological development;
theory and significance of the genomics;
and practical themes, as:
chromosome preparation-methods (classical and banding technologies); numerical and structural chromosome aberrations;
pedigree analyses;
methods of molecular genetics (PCR, RFLP, VNTR, etc.);
diagnostical use of these molecular methods.
The course ‘GENETICS’ takes place in second part of the second semester.

2. Primary Aims
Make acquaintance with the theory of up-to-date genetical knowledge;
A working practical knowledge of the genetical analyses.

3. Main Objectives
Analyses of different hereditary deformations on the human genetical pedigrees;
Use of classical Mendelian genetics in the identification of hereditary problems;
Factors affecting of polygenic (multifactorial) inheritance (role of environment in inherited traits and genetical components);
Use and theory of the chromosomal banding technologies;
Identification of mutagenity (SCE, micronucleus assay, etc);
Use of molecular genetics in the forensic aspects of medicine and in the prenatal diagnosis.
Theoretical significance and possibilities of the genomics (eg. tumor classification, DNA microarrays, clinical impact of DNA microarray, etc)
4. **Hours in the Curriculum**

1 h. lecture and 1.5 h practice per week.

5. **Method**

The subject has theoretical (lecture) and laboratory (practical) parts.

The lectures contain the up-to-date theoretical informations of different fields of above mentioned genetical themes. Over and above from the lecture notes and books the students get hand-outs from the lectures. In the practice we show different kind of pedigrees, molecular genetical analysis results, wich make the exercise of pratical use of these methods possible. The practice makes the consultation between the students and teachers possible. By the help of CD it is possible to recognize and examine the microscopical slides (chromosome preparatums, normal and aberrant mitotical and meiotical phases , etc.)

6. **Assessment**

The assesment means midterms (‘demonstration’, oral examination) in the middle of semester, and final exam, which consists of theoretical and pratical parts (oral).

7. **Strengths**

The strengths of course ‘GENETICS’ are the up-to-date informations about the genetics. We are using the informations systems as eg. ‘Med LINE’, and from these sources we are writing hand-outs, which contain short informations about the latest results of new experiments, and about the possible use of these results in the modern medical praxis.

8. **Weaknesses**

Weakness is the lack of some new teaching instruments, as computerized systems (CD, video, etc.), and the relative high number of students in one lab, which sometimes hinder the effective teacher – student communications.

9. **Innovations**

Innovations: we are trying to obtain the desirable teaching systems (videos, etc.). We are always making new aids to the learning of genetics (eg. CD-s about microscopic slides, methods, and hand-outs about theoretical part of genetics).

10. **Plans for future**

In the future we would like to teach more about the genomics, about the possibilities and practical use of new results of genomics. Similarly, we want to intensify the survey of molecular genetical approaches of medical diagnoses (as prenatal diagnosis) and the possibilities of prevention and treatment of genetic diseases.
Head of Department: Prof. Dr. András Falus, room 717 (7th floor), NET Building, 1445 Budapest, Nagyvárad tér 4., Tutor of English students: Dr. Valéria László, room 618 (6th floor), NET Building.
5. 4. Odontotechnology

Contact person: Dr. Imre Esztári, junior lecturer, deputy leader of department
E-mail: esztari@fogpot.sote.hu

Introduction
Odontotechnology: the course is about the basics of dental technology, in theory and practice, taught in the 3rd and 4th semester (second year). It contains the basics of the masticatory system, dentition and occlusion, covers the theory of complete and partial dentures, and the most important technical steps of their construction.

2. The primary aims:
to give all the possible information in theory and practice about the dental technologies and the technical aspects of the prosthetic treatments.
To make the students prepared for further clinical courses.

Main objectives
the masticatory system
the theory of occlusion
casts, articulators, transfer
complete dentures in theory and practice
wax up techniques for fixed restorations in theory and practice
the theory of removable and fixed partial dentures
construction of different crowns and bridges

Hours in the Curriculum:
II/1st semester
Practice: 2 hours/week: 30/semester
Lecture: 1 hour/week: 15/semester
II/2nd semester
Practice: 5 hours/week: 75/semester
Lecture: -

Method of learning/teaching
The theory is presented in lectures and in textbooks. Every practice starts with an oral and/or video presentation about the related topic. On the practices, the technical steps of constructing complete and partial dentures are carried out by the students, under the supervision of both dentists and dental technicians.
**Assessment methods**

There are three midterms in a semester – results given in percentage – to evaluate the theoretical background. At the end of the semester marks are given – ranking from 1 to 5 – based upon the value of the practical work and the results of the midterms.

**Strengths:**
- lectures
- video programs
- equipment

**Weaknesses:**
- technical staff coordination

**Innovation and Best Practices**
- introduction of the modern wax-up technique
- bilateral balanced occlusion for complete dentures
- light curing veneering of fixed partial dentures in practice

**Plans:**
- intraoral/micro camera in practice
- invitation of high skilled dental technicians for lectures and technical presentations

**12. Staff members:**
Prof. Dr. György Götz, Ph.D., leader of department
Dr. Imre Esztaári, junior lecturer, deputy leader of department
Dr. Péter Hermann, senior lecturer
Dr. Péter Czigler, junior lecturer
Dr. Pál Sajgó, junior lecturer
Dr. András Kóbor, Ph.D., senior lecturer
Dr. Péter Faluhelyi, senior house officer
6.1, 6.3 Anatomy, Histology and Embryology

Prof. Dr. Erzsébet Fehér
email: feher@ana.sote.hu

1. Introduction
Anatomy, histology and embryology are basic to education in the health-related professions. In our dental curriculum, these subjects are taught in the first four semesters. Students have to develop a working knowledge of the morphology and function of the human body before entering into the clinical studies. To enhance the understanding of anatomy from a functional point of view, histology and embryology is included in the anatomy course for the dental student.

2. Primary Aims:
To present the dental students an account of anatomical facts and concepts necessary to appreciate the structural organization of the human body at an intellectually satisfying level of complexity, thus providing a foundation on which to build when more detailed and specialized knowledge becomes necessary.

3. Main Objectives
1. To give students a working knowledge of the anatomical terminology that they will use throughout their career.
2. To allow students to become familiar with the clinically important details of the gross and microscopic anatomy of the human body.
3. To help students to develop three dimensional visualization of anatomical structures through practical work, such as dissection.
4. To demonstrate in more detailed about the regional and cross sectional anatomy of the head and neck area to prepare students to utilize images obtained with modern diagnostic techniques (CT, NMR).
5. To introduce students to the inherent non-pathological variation that is characteristic of the anatomy of humans.
6. To present concepts of gross anatomy, cell structure, and tissue structure that lay the foundation for an understanding of how a particular organ or organ system functions.
7. To describe the embryology of selected organs or regions to enable students to understand how normal postnatal organs or regions develop and to understand the mechanisms underlying certain common variants and clinically significant congenital defects.
4. Hours In the Curriculum

1st Semester: Lecture: 3 hours, Dissection: 4 hours, Histology: 2 hours
2nd Semester: Lecture: 3 hours, Dissection: 4 hours, Histology: 2 hours
3rd Semester: Lecture: 3 hours, Dissection: 5 hours including 1 hour Histology
4th Semester: Lecture: 1 hour, Dissection: 4 hours including 1 hour Histology

5. Method of learning/teaching
Anatomy, histology and embryology are presented to the dental students in two major ways: Lectures and Practical classes. Lectures introduce the subject in a didactic way, explain difficult concepts and points of clinical relevance. Practical sessions are Dissection and Histology classes. They help students to gain much of their knowledge from personal involvement in, investigation of and experience with the subject. The schedule of the semester with the subject of every lecture and practical classes (see attached) is given to the students at the beginning of each semester to help them organize their study time. During the semester and the exam period, students are encouraged to utilize the facilities of the Department (Histology and Dissection room, Anatomical Museum) for independent individual studies.

6. Assessment methods
The students' progress of learning anatomy is tested 3-4 times during the semester in an oral exam (midterm tests) with the emphasis on the practical part. They have to identify and explain the significance of the structure pointed at on the cadaver or under the microscope. At the end of the first three semesters there are oral exams (semi-final examinations) to test the practical, as well as the theoretical knowledge of the students on the semester's material. The final exam at the end of the fourth semester is a comprehensive one. This oral exam evaluates the student's practical and theoretical knowledge in anatomy histology and embryology.

7. Strengths
In practical classes every student has the advantage of doing dissection on limbs, organs and whole cadavers for having manual skill on experience of the subject. Preparations to demonstrate sectional anatomy of the head, neck and thorax are used extensively in the fourth semester to prepare students for the understanding of images obtained with modern clinical diagnostic techniques.

The Anatomical Museum of the department has a number of preparations demonstrating the normal
and abnormal variations of human anatomical structures. Students have the opportunity to evaluate the teaching of the faculty and the circumstances of education at the end of each year. Information is collected on how students see the material and personal conditions of their education in the department. This valuable feedback from the students enables the department to improve the effectiveness of its teaching.

8. Weakness
Due to financial limitations, didactic models of anatomical structures with difficult spatial orientation are still needed.

9. Innovation and Best Practices
Annual student competition in anatomy separately for first and second year dental students. Annual awards (Mihalkovics Foundation) for outstanding anatomical preparations to enrich the collection of the Anatomical Museum.

10. Plans for future changes
The department has been working on improving its teaching effectiveness. In the center of this effort is the use of instructional design and the use of technology to enhance learning. The development of instructional multimedia and Web based evaluations through online quizzes are some of the projects of the near future.
A more immediate need is to further improve the conditions in the dissecting rooms by eliminating formalin as much as possible from the air through development of new tissue fixatives and ventilation systems.

12. Staff
Professor
Erzsébet Fehér M.D., Ph.D., D.Sci. feher@ana.sote.hu

Associate Professor
András Csillag M.D., Ph.D., D.Sci. csillag@ana.sote.hu
György Somogyi M.D., Ph.D., somogyig@ana.sote.hu

Lecturer (Senior Assistant Professor)
Katalin Gallatzi D.M.D. gallatzi@ana.sote.hu
Gábor Gerber D.M.D., Ph.D. gerber@ana.sote.hu
Andrea Székely D.M.D., Ph.D. adszekely@ana.sote.hu
Géza Tótpál D.M.D. totpal@ana.sote.hu

Assistant Professor
Károly Altdorfer M.D. altdorf@ana.sote.hu
Viktória Vereczki M.D., Vereczki Viktória vereczki@ana.sote.hu

Géza Tótpál D.M.D.
6. 2. Medical Physiology

Senior Lecturer:  J. Bartha MD, PhD  

e-mail: bartha@puskin.sote.hu

Introduction

To students of dentistry, medical physiology is taught by the Department of Physiology, Faculty of Medicine, in the 2nd academic year (3rd and 4th semester) of curriculum. This discipline, based on the knowledge previously obtained by the students (chemistry, biology, biophysics) and co-ordinated with their simultaneous studies in anatomy and biochemistry, provides theoretical basis for the forthcoming preclinical and clinical studies.

2. Primary aims

The curriculum consists of lectures and laboratory practices.

Lectures aim at making the students acquire the knowledge of normal functions of the human cells, organs and organ system and of their control, being the fundamentals for learning further medical and dental disciplines. The coverage of the curriculum is actually equal to that taught to medical students, special emphasis is, however, laid on the particular aspects of dentistry.

Laboratory subserves the understanding of theoretical issues. At the same time, simple experimental, operative and measuring techniques and skills are also trained. Attention is paid to the development of abilities that are essential for the medical profession as manual dexterity, observant mind, logical and associative way of thinking.

3. Main objectives

The main topics:

Bases of cellular physiology (molecular bases of the function of cellular membrane, signal transduction, the physiology of excitable cells: nerve, muscle; synaptic and junctional transmission).

The functions of the cells developing from the lymphopoietic stemm cells: Hemopoesis, immunity, hemostasis and blood coagulation, blood groups and transfusion.

The physiology of the circulation (circulating body fluids, electrical activity of the heart, heart as a pump, dynamics of blood and lymph, cardiovascular regulatory mechanisms, circulation of special regions, cardiovascular homeostasis in health).

The physiology of the respiration (pulmonary function, gas transport, regulation of respiration, respiratory adjustment in health).

Renal function and micturition. The regulation of sodium, water and potassium turnover.

Regulation of extracellular volume and fluid composition [osmotic, volume, concentration of different ions (K⁺, Na⁺, Ca²⁺, H⁺), ].

Gastrointestinal function and regulation.
Regulation of energy balance, metabolism and nutrition. Thermoregulation. 
Hormonal control of calcium and phosphorous metabolism. The physiology of bone and teeth. 
The physiology of endocrine system (hypothalamus, pituitary gland, adrenal medulla and cortex, 
thyroid gland, endocrine function of the pancreas and reproductive system). 
The physiology of the central nervous system (reflexes, somatic and special sensations (vision, 
hearing, smell, taste, equilibrium). Motor functions of the spinal cord, brain stem, basal ganglia, 
cerebellum and cerebral cortex. Autonomic nervous system and central regulation of visceral 

4. **Hours in the curriculum**

   **First semester**
   
   Lectures: 6 h/week  
   Practicals: 5 h/week

   **Second semester**
   
   Lectures: 6 h/week  
   Practicals: 4.5 h/week

   **Sum total:**
   
   Lectures: 180 h/academic year  
   Practicals: 142.5 h/academic year

5. **Method of Learning/Teaching**

   **Lectures** are the primary means to prepare students for examination. The textbook used offers more 
   information than that required of the students of dentistry (it is a handbook rather). One of the goals 
   of the lectures is to focus the students' attention on the crucial points and bearings that are necessary 
   for successful passing the final examination. 

   The course of a **laboratory** begins with a seminar (40-50 min long) discussing poorly understood 
   points of current issues. The students used also to write tests aiming to foster orderly learning. In 
   the second part, laboratory in its proper sense is carried out. 

6. **Assesment methods** (one paragraph)

   **Examinations:**  
   first semester: semi-final  
   second semester: final

   **Tests:** The students have to prepare regurarly written tests during the practices. The goal of the 
   test is to promote the permanent learning of the students. 

   **Written competition** between students: at the end of second semester (facultative).
7. **Strengths**
The majority of the tasks are fulfilled by the students themselves. Despite of the progressive rise in the prices of laboratory animals, chemicals and tools, the Department of Physiology is continuously making efforts to maintain the conditions of students' laboratory activities.

8. **Weaknesses**
Most of the laboratory tasks are performed in teamwork. The unequal shares of the participants in the performance may lead to passivism of some of them. Their reactivation is a teacher's duty. There is no need to include special matters of oral physiology into the course of physiological laboratory, as they are involved in the discipline of oral biology taught in the 3rd academic year.

9. **Innovations and best practices**
Modernisation of physiological laboratory (first of all the human investigations and demonstrations) is continuously being managed. To this end, expensive equipments (e.g. blood gas analyser, impedance cardiograph) have been borrowed for demonstrational purposes. In co-operation with the National Institute of Sports Medicine, our students learn the most modern methods of sports (and occupational) physiology.

For the improvement of display facilities, setting a computer-controlled projection system has been planned.

10. **Plans for future changes**
Beginning from the next semester (2001/2002 academic year), Prof. Andras Spät will take over the charge to teach physiology to students of dentistry.

12. **Append staff names, qualifications and e-mail addresses for this department**

**Lectures** (names and qualifications) e-mail addresses
Bartha, Jenő MD, PhD bartha@puskin.sote.hu
Báthori, György MD, PhD barthory@puskin.sote.hu
Enyedi, Péter MD, PhD, Med. Habil. enyedi@puskin.sote.hu
Hably, Csilla DMD hably@puskin.sote.hu
Káldi, Krisztina MD, PhD kaldi@puskin.sote.hu
Peteő, Gábor MD petheo@puskin.sote.hu
Tost, Hilda MD, PhD tost@puskin.sote.hu
Várnai, Péter MD, PhD varnai@puskin.sote.hu

**Practicals** (names and qualifications) e-mail addresses
Bartha, Jenő MD, PhD bartha@puskin.sote.hu
Báthori, György MD, PhD barthori@puskin.sote.hu
Gáborik, Zsuzsa biol. eng., PhD student gaborik@puskin.sote.hu
Hably, Csilla DMD hably@puskin.sote.hu
Rada, Balázs biologist, PhD student brada@puskin.sote.hu
Szidonya, László MD, PhD student szidonya@puskin.sote.hu
6. 4. A. ORAL BIOLOGY

Name: Dr. Tivadar Zelles
e-mail:

1. Introduction

The Department of Oral Biology has been established in order to bridge the gap between the basic and clinical disciplines of Dentistry. Therefore, the main functions of the discipline of Oral Biology are:
- to teach dental students the development, structure, and functions of oral and perioral hard and soft tissues and organs, their mutual relationship, as well as their relation to other parts of the human body,
- to offer a possibility for collaborative research work to the staff of the clinical departments, as well as to dental students in oral basic-, and applied clinical research.

The course interrelates with all the clinical disciplines of dentistry and builds on and applies the traditional basic health sciences to the study of orally related problems. Oral Biology by its nature is to act as a bridge of knowledge and expertise between the basic and clinical science disciplines within the dental curriculum. The placing of the course is most appropriate after the basic health sciences (anatomy, biochemistry, immunology, physiology, microbiology, pathophysiology and pathology) and before the clinical subjects. Thus, it is sequenced into the 2nd semester of the 3rd academic year.

Primary Aims
- To provide a theoretical basic introduction to the development, structure and biology of the oral soft and hard tissues, to enable students to recognise deviations from what is normal (oral health), and to understand the pathogenesis of dental diseases.
- To introduce students into specific in vivo and in vitro laboratory methods and to illustrate how these techniques arising from oral biological research aid in the performance of both the preventive and clinical dentistry.

Main Objectives
a.) The oral mineralized tissues (development, structure, function, and their relationship to each other and to the oral mucosa, influences on the mineralized tissues)
b.) Periodontium (physiology, composition of crevicular fluid, microanatomy, ultrastructure, and function of periodontal ligaments, the alveolar bone and its remodeling)
c.) The salivary glands and saliva (structure and function of the major and minor salivary glands, regulatory mechanisms, the role of salivary constituents in oral defence mechanisms)
d.) Fluoride metabolism and toxicity (fluoride in the biosphere, fluoride sources, absorption,
distribution and excretion, the importance of salivary fluoride, acute and chronic poisoning, the mechanism of dental fluorosis)
Mastication and deglutition (the temporomandibular joint, the muscles of mastication, the control of mastication and swallowing)
Sensation in the oral cavity (pain sensation and taste sensation and their regulation).

**Hours in the curriculum**
Lecture time is 3 hours per week (45 hrs as a sum). The practicals include 2 hours work once a week in all the semester (30 hrs as a sum).

**Methods of teaching/learning**
The methods of teaching are general lectures, and laboratory practicals. Lectures are concentrated on the theoretical aspects. The aim is to explain and illustrate the normal as well as the abnormal conditions within the oral cavity. However, the lectures also deal with some of the important clinical aspects: the cause of the problems and fundamentals of therapy. Laboratory practicals include basic hematology and laboratory tests (collection of saliva, determination of sIgA, determination of phosphate dissolved from human enamel using acid etching, fluoride determination of the drinking water, tea infusions, and of the urine after an acute fluoride load, studying the salivary sugar clearance etc.)
Most of the lectures are given at the time when practicals are also concentrated on the appropriate topics (the pathomechanism of bleeding disorders vs microscopic evaluation of blood smear preparations, and laboratory tests for differentiating between thrombopathies, capillaropathies, and coagulopathies, fluoride metabolism vs fluoride determination etc.)
Beside the books, coloured pictures, figures and tables constructed by the teachers are additionally available for all the students on floppy discs. The questions of the final examination are given to the students at the beginning of semester. Questions are partly renewed in each year. Consultations which take place between the main objectives, the midterm exam, and advised learning programs available on the internet are the driving force for self-directed learning of students.

**Assessment methods**
Midterm exam of hematology includes a written test. In addition, the students have to carry out microscopic evaluation of an unknown blood smear preparation with conclusions. The midterm is assessed with marks 1 to 5. Failed result needs repeated examination to continue the course. Final examination is held at the end of the semester. Oral examination consists of questions from the theory and oral biological practices.

**Strengths**
- The teaching staff (dentists with experiences also of teaching pathophysiology, biologist, chemist,
clinicians, well educated technicians)
- Intense scientific activity on different fields of oral biology
- International scientific collaborations, and common work with the teachers working at the dental clinics
- Continuing evaluation of the international trends in education, and taking part in the work of DENTED visitor groups.

**Weaknesses**
- limited number of rooms for teaching
- inadequate financial support for developing and introducing new laboratory methods with appropriate instrumentations
- insufficient number of teachers for teaching of dental students in Hungarian, German, and English, separately.

**Innovations and Best Practices**
- PCs are now available for each member of the department
- New books and scientific journals are also available in the library of the department, which was opened last year with 24 chairs, screen, and with projectors.

10. Plans for future changes

**Staff:**
Tivadar Zelles DMD., PhD.  Head of Department
Ildikó Boros, DMD, Ph.D.  full professor
György Simon, DMD, PhD.  full professor
Péter Keszler, DMD, Ph.D.
Gábor Varga, Ph.D, DSc.  full professor
József Blazsek, DMD, Ph.D.  senior assistant professor
Veronika Gresz, DMD  assistant professor
Jolán Bánóczy, MD, Ph.D. DSc.  emeritus professor
6. 4. B. GENERAL and ORAL PATHOPHYSIOLOGY

Name: Tivadar Zelles

e-mail:

Introduction
Pathophysiology is a preclinical subject in Hungary developed in nineteenfourties, when Pathology was divided to Pathological Anatomy, Microbiology and Pathophysiology. The subject is taught after the basic subjects (5th semester) and before most of the clinical topics. It utilises the knowledge from physiology, biochemistry for the understanding of clinical problems in general medicine, and also for some regulatory defects in dental sciences. As a preclinical course, it forms a bridge between basic science and applied clinical topics with special attention to dental aspects.

2. Primary Aims
- To provide a theoretical basic introduction to the regulatory disorders of the organism, which is important to understand the pathologic events of the illnesses.
- To emphasize those pathological mechanisms which may be important to know for dentists in the dental treatment.

3. Main Objectives
a./ Pathophysiology of liver function. Permeability changes in the hepatocytes in the liver diseases, types of icterus, pathomechanism of liver cirrhosis, portal hypertension, hepatic coma.
b./ Disorders of gastric secretion, gastric and duodenal ulcer, disorders of the exocrine pancreas-function. Hyper-, hypo- and anacidic forms of gastric secretion, motility disorders, chronic atrophic gastritis and pernicious anaemia, Helicobacter pylory infection, importance of serum gastrin level and the endoscopy in the differencial diagnose of the gastric diseases, importance of the saliva secretion in the gastroesophageal reflux disease, acut and chronic pancreatitis, cystic pancreatic fibrosis.
c./ Cardiac insufficiency. Adaptation forms of the heart to the exercises, preload and afterload, forward and backward heart failure, valvular diseases, circulatory redistribution in the cardiac insufficiency, cardiac dispnea and edema, cardiac infarct, cardiomyopathies.
d./ Hypertension. Definition, relationship between the cardiac output and the peripheral resistency, forms of hypertension, pathomechanism of the essential hypertension, risk factors, later complications of the hypertony.
e./ Shock. Pathomechanism, forms of the shock, haemodinamical changes, peripheral and central changes in the ANS, blood clotting changes, changes in the tissue metabolism, diagnostic and prognostic significance, therapeutical aims.
f./ **Pathophysiology of the kidney function.** Pathomechanism of the acute and chronic renal disease, uremia

g./ **Disorders of the acid-base balance.** Regulating effects of the acid-base balance, respiratory metabolic and combinative forms of the acid-base disorders, symptoms, changes in the laboratory parameters, disorders in the cell functions.

h./ **Disorders of the salt-water metabolism.** Water- and electrolyte requirements, regulating mechanisms, iso-, hypo- and hypervolaemia, iso-, hypo- and hyperosmotic forms.

i./ **Pathophysiology of breathing.** Lung volumes and breathing parameters, hypo- and hyper-ventillation of the lungs, obstructive respiratory disorders, emphysema, asthma bronchiale, restrictive respiratory disorders, significance of the ventilation/perfusion ratio and shunts, respiratory insufficiency.

j./ **Disorders of the carbohydrate metabolism.** Hyper- and hypoglycaemia, diabetes mellitus: aetiology, pathomechanism, symptoms, types, diabetic coma. Role of the salivary glands in the regulation of carbohydrate metabolism, oral significance of in diabetes mellitus.

k./ **Atherosclerosis.** Definition, stages of the developing atherosclerosis, theories, risk factors, significance of the LDL and HDL, later complications.

l./ **Disturbances of the lipid metabolism.** Inherited and aquired differences in the lipid metabolism, disorders of the regulation of the lipid concentration, risk factors, obesity.

o./ **Disorders of the protein metabolism and the energy turnover.** Requirements, optimal level, protein deficiency and its symptoms, malabsorbtion and malnutrition, dietary risks.

p./ **Endocrine disturbances I.** Functional disorders of the adeno- and posterohypophysis, generalized and selective illnesses, disorders of the hypothalamus - hypophysis interaction and its significance in the development of orofacial bones and in the function of oral tissues.

q./ **Endocrine disturbances II.** Disorders of the thyroid gland and adrenocortical function: hypo- and hyperfunction and their signs, Graves-, Addison-, and Cushing disease, primer- and secunder hyperaldosteronism, significance of the pregnancy in the oral functions, hyper- and hypoparathyreodism and their effects on the bone structure.

4. **Hours in the curriculum**

Lecture time is 2 hours per week (30 hrs as a sum). Practicals include 2 hours work once a week in all the semester (30 hrs as a sum).

5. **Method of teaching/learning**

The methods of teaching are general lectures and laboratory practicals. Lectures are concentrated on the theoretical aspects to explain and illustrate the normal as well as the pathologic
conditions in the regulatory mechanisms of organism. However, the lectures also deal with some of the important clinical aspects: the cause of the problems and fundamentals of therapy. In some cases the lecturer emphasizes those oral symptoms which may be the consequence of the original disease.

**Laboratory practicals** consist of two main parts: in the first part students learn the electrocardiography and a later stage they have to recognise the main electrocardiographic disorders such as supraventricular- and ventricular arrhythmias, abnormalities of atrioventricular conduction, intraventricular conduction delays, myocardial infarction, preexcitation syndromes, P wave abnormalities, etc. At the end of the ECG course students have to participate a midterm exam which comprises a written test. The test mark is included into the final exam.

In the second part students learn those laboratory methods which are important in the internal medicine and also in the dental healing. The main topics of the methods: examination of the gastric and pancreatic secretion, radioimmunoassay, examinations of the liver function, urine examinations, enzymes determinations, endocrine examinations, etc.

**6. Assessment methods**

The questions of the final exam and a 150 specific test questions are given to the students about a month before the final examination. On the final exam students have to answer 10 specific test questions and two questions from the theory and one related to the methods presented at the practicals. Final examination is held at the end of the semester.

**7. Strengths**

- The teaching staff (dentists with experiences also of teaching oral biology, biologist, chemist, clinicians and educated technicians)
- Intense scientific activity on different fields of physiology and biochemistry
- International scientific collaborations
- Continuing evaluation of the international trends in education

**8. Weaknesses**

- limited time and limited number of rooms for teaching. Students have to learn from those book which has been written for the medical students and therefore it is too reach in details.
- insufficient number of teachers for teaching of dental students in Hungarian, English and German, separately.

**9. Innovations and Best Practices**

- PCs are now available for each member of the department

**10. Plans for future changes**
12 Staff
Tivadar Zelles DMD., PhD.  Head of Department
Ildikó Boros, DMD, Ph.D.  full professor
György Simon, DMD, PhD.  full professor
Péter Keszler, DMD, Ph.D.
Gábor Varga, Ph.D.- DSc.  full professor
József Blazsek, DMD, Ph.D.  senior assistant professor
Veronika Gresz, DMD,  assisstant professor
Jolán Bánóczy, MD, Ph.D. DSc.  emeritus professor
7. 1. Pharmacology and Toxicology

Person in School who will explain and show this to the visitors
Name: Prof. Valeria Kecskemeti M.D., PhD.
E-mail: KECSVAL@PHARMA.SOTE.HU

1. Introduction
In the course of pharmacology and toxicology we teach the basic pharmacology
(pharmacodynamic, pharmacokinetic and toxicology) of the drugs of special importance in dentistry
(local anaesthetics, antiseptic, antimicrobial drugs, general anesthetics, sedatives, analgesics, drugs
acting on bone and tooth, and haemostasis). The course also provides an adequate background for
the most important drugs used in general practice (cardiovascular and antiinflammatory drugs,
hormones, cytotoxic chemotherapy, drugs acting in central nervous system) and as well as the
knowledge of prescribing and misuse of drugs.

2. Primary Aims
Teaching the basic pharmacology and clinical using of drugs, especially in the dental practice.

3. Main Objectives
Basic pharmacology
Antimicrobial drugs
Local anesthetics
General anesthetics, sedatives, anxiolytics
Haemostasis
Analgetics
Drugs acting on bone and tooth
Stomatological appearance of drugs side effects and toxicity

4. Hours in the Curriculum
Course timing: 1 year, 2 semesters, in each semester contains 15 weeks, lecture is 1 hour/week,
practice 2 hours/week.
Content of course: Basic pharmacology (receptors, pharmacodynamics, pharmacokinetics)
- Autonomic pharmacology
- Local anesthetics
- General anesthetics
- Sedative-Hypnotics
- Analgetics
- Antiepileptic drugs
- Psychopharmacology
- Skeletal muscle relaxants
- Non-steroidal antiinflammatory drugs
- Cardiovascular pharmacology
- Pharmacology of respiratory system
- "gastrointestinal tract
Drugs used in disorders of coagulation
Agents that affect bone and tooth mineral homeostasis
Allergia and immunopharmacology
Antiseptic
Antimicrobial and antiviral drugs
Cancer chemotherapy
Hormones
Oral manifestations of drug toxicity
Prescription of drugs

5. Method of learning

In the lecture we use projector, slices video. The practice may be seminar type

6. Assessment

In the first semester the compulsory examen may be oral or written test
In the second semester the compulsory final examen is oral.

7. Strengths

We try to emphasize the special aspects of pharmacology and the role of the newest drugs in the dental practice. This information should also be adequate for those seeking higher qualifications.

8. Weaknesses

The number of hours of course is not enough

Innovations

Staff

Teaching staff: Professor Valeria Kecskeméti, M.D., PhD. - lecturer

Dr. Zsusanna Gyarmati, assistant of professor
Prof. Huba Kalász PhD., D.SC
Laszló Köles M.D., assistant of professor
Pál Riba M.D., assistant of professor

Address of department. Department of Pharmacology and Pharmacotherapy

Budapest P.O.Box 370, Nagyvárad tér 4, 1445 Hungary
7. 2. Microbiology

Person in School who will explain and show this to the visitors:

Name: Katalin Kamotsay M.D.

E-mail: kamkat@net.sote.hu

Introduction–

The course of general and oral microbiology takes place in the first semester of the 3rd year. In this subject – apart from the general informations about the microbes and bacterial genetics – systemic bacteriology, virology, parasitology and mycology are also included. Those microbes which are the causative agents of diseases occurring in the oral cavity or causing special symptoms there, are emphasized.

Primary aims –

The aims of this course are to teach the causative agents of infectious diseases with a special emphasis on the oral pathogens, to discuss the guideline of treatment and prevention.

Main objectives –

Pathogenesis and virulence, factors of virulence
Antimicrobial therapy – modes of action, modes of resistance
Pyogenic bacteria
Enteral pathogens of bacteria, viruses
Bacterial and viral pathogens of the respiratory tract
Anaerobic bacteria
Sexually and body fluid transmitted microbes
Normal flora of the oral cavity, odontopathogens, microbiology of caries
General and systemic mycology
General and systemic parasitology

Hours in the Curriculum –

Lectures – 2 hours per week
Practices – 3 hours per week

Method of learning/teaching –

Lectures are held in the lecture hall by senior lecturers. Practises are held in the students’ laboratory under the supervision of the younger teachers of our institute.

During the course the students learn how to manipulate with microbes, how to do sampling, how to evaluate cultures, antibiograms, how to use the different staining technics. There are a lot of
cultures, serological reactions etc. just to demonstrate how to use the different properties of microbes in the diagnostic work.

**Assessment methods –**
At the end of the course the students have to take the final examination which consists of practical and theoretical parts. The exam is oral.

**Evaluation of the exam:** five-scale grading system –

5 = excellent  
4 = good  
3 = fair  
2 = passing  
1 = failure

**Strengths –**
The main topic is bacteriology – both theoretically and in the laboratory.

**Weaknesses –**
Mycology laboratory technics.

**Innovation and best practices**

**Plans for the future changes –**
We would like to improve the diagnostic methods of anaerobic oral pathogens.

**Staff names, qualifications and e-mail addresses**

_program director:_ Prof. Piroksa Anderlik M.D.  
_tutor:_ Katalin Kamotsay M.D. professor’s assistant  
_lecturers:_ Prof. Piroksa Anderlik M.D., Ph.D., med. habil.  
- e-mail: andpir@net.sote.hu  
- Prof. Éva Ádám D.Sc., Ph.D.  
- e-mail: adaeva@net.sote.hu  
- Zsuzsanna Csukás M.D. Ph.D.  
- e-mail: csuzsu@net.sote.hu

_practical teachers:_  
- atalin Kamotsay M.D. professor’s assistant  
- e-mail: kamkat@net.sote.hu  
- Agoston Ghidán professor’s assistant  
- e-mail: ghiago@net.sote.hu  
- Orsolya Dobay Ph.D. student  
- e-mail: dobors@net.sote.hu
3. GENERAL PATHOLOGY

Director: Prof. László Kopper

1. Introduction
Pathology is taught in the 3rd academic year (5th and 6th semesters), therefore the active knowledge of the anatomy, histology, biochemistry, and physiology as well as the completed final exams of the 1st and 2nd academic years are the prerequisites. During the academic year the students will learn the importance of the pathology in medicine, especially among the diagnostic disciplines; they will be familiar with the basic pathomorphological changes and the main alterations in the most important diseases; furthermore they will be trained in the essence of methodology. At the end of the 6th semester the students would properly evaluate the clinico-pathological correlations.

2. Primary aims:
to provide fundamental theoretical and practical basis of the pathological processes that could serve as a solid background in the understanding of the pathogenesis and pathomechanism of the diseases;
to establish a clinico-pathological view

3. Objectives:
to emphasize the mutual relationship between the altered function and the abnormal structure (morphology) in diseases;
to understand the fundamental pathological mechanisms;
to be familiar with the macroscopic morphology of the diseased organs;
to be familiar with the microscopic changes resulted from the pathological processes;
to realise the importance of the pathological alterations behind the clinical findings;
to understand the distant effect of dental diseases on the whole human body;

4. Hours in the Curriculum:
Two semesters.
First semester: 2 lectures per week (2 hours each) and
1 practice (2 hours) per week are held
Second semester: 1 lecture per week (2 hours each), and
1 practice per week (2 hours each)
Total hours: 135 hours (lectures: 75 hours, practices: 60 hours)
(First semester: lectures 60 hours, practices 30 hours,
Second semester: lectures 15 hours, practices 30 hours)

5. Method of learning:
Alternating lectures and practices. The lectures span the general and the organ pathology. At the
lectures the verbal presentation is accompanied by projection color slides (20-25/per occasion), videotape presentations or overhead projections. The practices are subdivided into autopsy and histopathology lessons (3:1 basis). During autopsy practices the students attend the regular postmortem examination, manually check all organs, and establish final diagnosis. At the histopathology lab 56 selected slides are reviewed representing the most important pathological alterations. Maximum 3 absence leavings from the practices per semester are accepted.

Facilities:
- Lecture hall for at least 150 persons; slide projectors, overhead projectors, video-projectors;
- Histopathological lab (43 seats, individual microscopes, slide projectors, overhead projectors);
- Autopsy room and fitting room: 4 dissecting tables. Special autopsy coats (regular cleaning is obligatory). Consumables for students: nylon shoe covers and aprons.

6. Assessment methods:
Two compulsory midterms during each semester - graded from 1 to 5;
At the last autopsy practice an organ demonstration is held by the students;
Semifinal: Written test (60 questions to be answered in 60 minutes)
Final: Written test (as above) followed by organ demonstration and during this part the examiner asks many different aspects of the pathology. Grading: from 1 to 5.

7. Strengths:
The Institute has more than 140 years of teaching tradition. The lectures are held by skilled, recognised, qualified persons with broad scientific activities. The Institute performs over 800 autopsies per year and evaluates over 8 000 biopsy materials. Well-equipped teaching facilities.

8. Weaknesses:
In the second semester the 1 hour lecture per week is not enough for the detailed discussion of the organ pathology. The general interest of the students toward the pathology is rather modest - at the lectures sometimes 3-5 of them are present. Space is limited in the fitting room.

9. Innovations and best practices:
large collection of concise, instructive videorecorded autopsy cases;
large collection of color projection slides;
PC-driven demonstrations at the lectures;

10. Plans for future changes:

12. Staff:
<table>
<thead>
<tr>
<th>Name</th>
<th>Qualifications</th>
<th>e-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>László Kopper</td>
<td>M.D., Ph.D., Dr.Sci.</td>
<td><a href="mailto:kopper@korb1.sote.hu">kopper@korb1.sote.hu</a></td>
</tr>
<tr>
<td>Béla Szende</td>
<td>M.D., Ph.D, Dr. Sci.</td>
<td><a href="mailto:bszende@korb1.sote.hu">bszende@korb1.sote.hu</a></td>
</tr>
<tr>
<td>József Tímár</td>
<td>M.D., Ph.D., Dr.Sci.</td>
<td><a href="mailto:jtimar@oncol.hu">jtimar@oncol.hu</a></td>
</tr>
<tr>
<td>András Jeney</td>
<td>M.D., Ph.D., Dr. Sci.</td>
<td><a href="mailto:ajeney@korb1.sote.hu">ajeney@korb1.sote.hu</a></td>
</tr>
<tr>
<td>Ilona Kovalszky</td>
<td>M.D., Ph.D., Dr. Sci.</td>
<td><a href="mailto:koval@korb1.sote.hu">koval@korb1.sote.hu</a></td>
</tr>
<tr>
<td>Attila Zalatnai</td>
<td>M.D., Ph.D., Med. habil.</td>
<td><a href="mailto:zalatnai@korbl.sote.hu">zalatnai@korbl.sote.hu</a></td>
</tr>
<tr>
<td>Péter Nagy</td>
<td>M.D., Ph.D.</td>
<td><a href="mailto:nagy@korb1.sote.hu">nagy@korb1.sote.hu</a></td>
</tr>
<tr>
<td>Judit Pápay</td>
<td>M.D.</td>
<td><a href="mailto:papay@korbl.sote.hu">papay@korbl.sote.hu</a></td>
</tr>
<tr>
<td>Csaba Diczházi</td>
<td>M.D.</td>
<td><a href="mailto:csaba@korb1.sote.hu">csaba@korb1.sote.hu</a></td>
</tr>
<tr>
<td>Attila Patonai</td>
<td>M.D.</td>
<td><a href="mailto:patonai@korbl.sote.hu">patonai@korbl.sote.hu</a></td>
</tr>
<tr>
<td>Anita Mohos</td>
<td>M.D.</td>
<td></td>
</tr>
<tr>
<td>Anna Kádár</td>
<td>M.D., Ph.D., Dr. Sci.</td>
<td><a href="mailto:kadann@korb2.sote.hu">kadann@korb2.sote.hu</a></td>
</tr>
<tr>
<td>László Vass</td>
<td>M.D., FIAC</td>
<td></td>
</tr>
</tbody>
</table>
7. 4. Public Health

Prof. Dr. Endre Morava

Person in School who will explain and show this to the visitors:
Name: dr. Judit Forrai
Email: forjud@net.sote.hu

1. Introduction
Public health medicine is taught to dental students in the fourth year of their university studies. At that stage of education the students have a most of clinical knowledge necessary to understand the roles of public health in dentistry.

Primary aim: to provide the students with comprehensive theoretical knowledge concerning preventive medicine and public health, and give them some basic practical skills on the field of public health.

Main objective to teach the theoretical basics of:
the distribution of diseases in population (demography, epidemiology, including basic epidemiological calculation - relative risk, standardisation)
prevention of diseases, health promotion
healthy lifestyle, healthy nutrition
health care services, health care financing
environmental health, occupational medicine
infectious diseases
hygiene

Hours in the Curriculum: 52,5 hours (15 x 1.5 lecture hours and 15 x 30 seminar hours)

Method of teaching: 17.5 hours lecture, 22.5 hours seminar (small group teaching). We deliver lectures on selected topics of public health and seminars on important practical skills and regulations concerning public health and dental services. Comprehensive textbook is available for the students. Regular feedback of students is organised.

Assessment methods: written examination: test and epidemiological calculation (relative risk, standardisation), oral exam (three groups of questions: I. Epidemiology of communicable diseases, II. Environmental hygiene, occupational hygiene, toxicology, food hygiene, nutrition, III. Epidemiology, health promotion,
prevention of non communicable diseases, the system of health care.

**Strengths:**
The teachers are scientists. Their main field of research: interrelationship between the health state, environment and lifestyle factors, health status of school children and the factors influencing it, aetiology of chronic hepatic diseases, water-safety, aetiology of nosocomial infections, health related knowledge of the population and effective methods of health education. The group of Medical History is one of the main medical history researching group in Hungary. The Institute organises and runs health-educating projects, health promotion interventions to improve the lifestyle of the population and of the minority (gipsy) (mainly in the area of smoking and HIV-AIDS prevention, education to have safe and healthy sexual life). The Public Health Institute is the centre of WHO CINDI (Countrywide Integrated Noncommunicable Diseases Intervention) program in Hungary.

**Weaknesses:**
According to prevent regulations participation of lectures is not compulsory, therefore some students do not attend the lectures.

**Innovation and Best Practices:**
We have introduced problem solving exercises and seminars. Student’s feed back following each lecture and seminar is established. We are offering wide opportunity for scientific work to the students. Large number of student prepared thesis on public health. The topics of lectures and seminars are dealing with the most important public health problems of Hungary.

**Plans for future changes:** Establishing stronger integration with clinical studies

**Staff names, qualifications and email addresses**

**THE TEACHING STAFF OF THE INSTITUTE**

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director</td>
<td>Prof. Dr. Endre Morava</td>
<td><a href="mailto:morend@net.sote.hu">morend@net.sote.hu</a></td>
</tr>
<tr>
<td>Deputy director</td>
<td>Prof. Dr. Tamás Simon</td>
<td><a href="mailto:simtam@net.sote.hu">simtam@net.sote.hu</a></td>
</tr>
<tr>
<td>Professors</td>
<td>Prof. Dr. Sándor Nagyłuczskay</td>
<td><a href="mailto:nagysan@net.sote.hu">nagysan@net.sote.hu</a></td>
</tr>
<tr>
<td></td>
<td>Prof. Dr. László Sujbert</td>
<td><a href="mailto:sujlesz@net.sote.hu">sujlesz@net.sote.hu</a></td>
</tr>
<tr>
<td>Associate professors</td>
<td>Dr. Péter Jakabfi</td>
<td><a href="mailto:jakpet@net.sote.hu">jakpet@net.sote.hu</a></td>
</tr>
<tr>
<td>Hon. Associate professor</td>
<td>Dr. Miklós Lelkes</td>
<td><a href="mailto:lelmik@net.sote.hu">lelmik@net.sote.hu</a></td>
</tr>
<tr>
<td>Adjuncts</td>
<td>Dr. Piroska Ballér</td>
<td><a href="mailto:balpir@net.sote.hu">balpir@net.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Zsuzsa Bori responsible for the course of dentistry in German</td>
<td>Dr. Mária Dákay</td>
<td><a href="mailto:borzsuv@net.sote.hu">borzsuv@net.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Judit Forrai responsible for the course of dentistry (Hungarian and English)</td>
<td><a href="mailto:forjud@net.sote.hu">forjud@net.sote.hu</a></td>
<td></td>
</tr>
<tr>
<td>Assistant lecturers</td>
<td>Dr. Eleonóra Leffelholc</td>
<td><a href="mailto:lefele@net.sote.hu">lefele@net.sote.hu</a></td>
</tr>
<tr>
<td></td>
<td>Dr. Katalin Antmann</td>
<td><a href="mailto:antkti@net.sote.hu">antkti@net.sote.hu</a></td>
</tr>
<tr>
<td></td>
<td>Dr. Julianna Koncz</td>
<td><a href="mailto:koncjul@net.sote.hu">koncjul@net.sote.hu</a></td>
</tr>
<tr>
<td></td>
<td>Dr. Katalin Veress</td>
<td><a href="mailto:verkati@net.sote.hu">verkati@net.sote.hu</a></td>
</tr>
<tr>
<td>Professor’s assistant</td>
<td>Dr. Peter Lobmayer</td>
<td><a href="mailto:lobpet@net.sote.hu">lobpet@net.sote.hu</a></td>
</tr>
<tr>
<td>Role</td>
<td>Name</td>
<td>Email</td>
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</tr>
<tr>
<td>Institute’s Physician</td>
<td>Dr. Beatrix Oroszi</td>
<td><a href="mailto:orobea@net.sote.hu">orobea@net.sote.hu</a></td>
</tr>
<tr>
<td>Scientific advisor</td>
<td>Dr. Emil Schultheisz</td>
<td></td>
</tr>
<tr>
<td>Scientific chief co - worker</td>
<td>Dr. Emma Tahin, Neményiné</td>
<td></td>
</tr>
<tr>
<td>Scientific co - worker</td>
<td>Dr. Péter Csépe</td>
<td><a href="mailto:csepet@net.sote.hu">csepet@net.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Ágnes Sima</td>
<td></td>
<td><a href="mailto:simagi@net.sote.hu">simagi@net.sote.hu</a></td>
</tr>
<tr>
<td>Invited lecturers</td>
<td>Prof. Dr. György Károlyi</td>
<td></td>
</tr>
<tr>
<td>Dr. Péter Józan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. Júlia Kaposvári</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. György Somosi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior technician</td>
<td>Hlatky Sándorné</td>
<td><a href="mailto:hlathed@net.sote.hu">hlathed@net.sote.hu</a></td>
</tr>
<tr>
<td>Professor’s secretary</td>
<td>Purczeld Mihályné</td>
<td><a href="mailto:purmihne@net.sote.hu">purmihne@net.sote.hu</a></td>
</tr>
</tbody>
</table>
8. 1. General Medicine

Person in School who will explain and show this to the visitors:
Name: László Jakab MD, MSc.
e-mail: jaklasz@hermes.sote.hu

1. Introduction
Internal medicine based on lectures and practicals in 3 semesters. Teaching of cardiology, pulmonology, hematology, immunology, endocrinology, infectology, gastroenterology and urology with special emphasis on dental consequences.

2. Primary Aims
Teaching of patient’s history taking and physical examination. Important aspects of internal medicine and its dental relation.

Main objectives.
We concentrate on clinical immunology, infectious disorders including viral diseases (herpes family, AIDS), bacterial (tuberculosis) and fungal infections, hematology, with special emphasis on oral symptoms, disorders of the metabolism (diabetes mellitus). In the field of cardiology we deal with acute myocardial infarction, collapse, shock, arrhythmias and conduction disturbances.

4. Hours in the Curriculum
3rd year: lecture 2 hours, practical 2 hours each week for 15 weeks in the first semester.
4th year: lecture 2 hours, practical 2 hours each week for 15 weeks in the second semester.
4th year: lecture 1 hour and practical 2 hours each week for 15 weeks in the third semester.

5. Method
Lectures on oral presentation, bedside practicals with the direction of staff.

6. Assessment method
Marks given on semifinal and final exams.

7. Strengths
Highly qualified staff teaches the dental students. Diploma work of dental students often presented in internal medicine.

8. Weaknesses
Sometimes the attendance of lectures is poor.

Innovations and Best practices:
Take part in the scientific work of the 3rd Department of Internal Medicine.

Staff names: Dr. László Jakab MD. MSc. (UK)
            Dr. László Kalabay MD. PhD
            Dr. Teréz Pozsonyi MD. PhD
            Dr. Gábor Tarkovács MD. PhD
            Dr. Judit Várkonyi MD. PhD
8. 2. GENERAL SURGERY

Person in School who will explain and show this to the visitors:
Name: Prof. Dr. János Regöly-Mérei
E-mail: rj@seb3.sote.hu

**Introduction**

Fourth year students at Semmelweis University, Faculty of Dentistry have Hungarian and German courses in general surgery during the first semester, while English courses take place during the second semester. The teaching of general surgery as an element of the training of dentistry students began in 1966, first at the 3rd, later temporarily at the 2nd, then up to date at the 3rd Department of Surgery. The head of the staff as well as the present gradual training co-ordinator have been participating in the training since the very beginning.

**Primary Aims**

The aim of the course is the introduction of the basic principles of clinical surgery integrated in the course of dental training. Students are intended to familiarise themselves with the diagnostic, differential diagnostic and therapeutic measures, possibilities and criteria as well as the pathophysiologic and therapeutic complications.

**Main Objectives**

- Surgery of the neck
- Surgery of the thorax, breast, heart and lungs
- Surgery of the gastrointestinal tract
- Surgery of parenchymal organs
- Surgery of bowel obstructions and hernias
- Surgery of the kidneys and the urinary tract
- Basics of vascular surgery
- Emergency medicine and general traumatology

**Hours in the Curriculum**

Compulsory hours in the curriculum include 2 hours of lecture and 2 hours of practical training per week. Training is carried out in small groups.

**Method of learning/teaching**

Practical training is conducted in small groups of (usually 4-6) students. Lectures take place in great lecture halls attended by 60-70% of all students. Practical training sessions are carried out in inpatient wards, diagnostic units, operation rooms or by means of video recordings under the supervision of experienced tutors.

**Assessment methods**
At the end of the semester, students are required to give account of their knowledge in form of a final oral exam. The questions of the exam cover the main topics of general and special surgery.

**Strengths**

Being an extraordinary clinical subject of the dental curriculum, surgery arises great interest among dental students year after year. Teaching is conducted by experienced tutors, according to a well proved, traditional method.

**Weaknesses**

Because of time limitations (1 semester), it is impossible to present the questions of general surgery within the time frame of lectures.

**Innovations and Best Practices**

During lectures as well as practical training sessions the possibility is given to exploit and utilise the different facilities of video and digital techniques. The most popular training sessions provide real bedside experience, for example physical exams, assistance at operations, or wound dressing.

**Plans for future changes**

**12. Staff names, qualifications and e-mail addresses of the Department**

- Prof. Dr. Lajos Nagy professor
  - surgeon, vascular surgeon, candidate
- Prof. Dr. János Regöly-Mérei professor
  - surgeon, gastroenterologist, candidate
- Dr. med. habil. József Sándor lecturer
  - surgeon, candidate
- Dr. Tihamér Tóth lecturer
  - surgeon, thoracic surgeon, candidate
- Dr. med. habil. András Bálint attendant
  - surgeon, gastroenterologist, candidate
- Dr. István Harka attendant
  - surgeon
- Dr. Lajos Kiss attendant
  - surgeon, vascular surgeon
- Dr. Károly Szabó attendant
  - surgeon, anaesthesiologist
- Dr. Miklós Sebestény attendant
  - surgeon, vascular surgeon, thoracic surgeon
- Dr. Miklós Máté assistant
  - surgeon, vascular surgeon, gastroenterologist
- Dr. Tamás Barta assistant
  - surgeon, clinical oncologist
8. 3. ANAESTHESIOLOGY

Person in School who will explain and show this to the visitors:
Name: Dr. Ernő Dárdai
E-mail: dardai@seb3.sote.hu

1. Introduction
Fourth year students at Semmelweis University, Faculty of Dentistry have Hungarian and German courses in anaesthesiology within the course of general surgery during the first semester, while English courses take place during the second semester. The teaching of anaesthesiology as an element of the surgical training of dentistry students began in 1966, first at the 3rd, later temporarily at the 2nd, then up to date at the 3rd Department of Surgery.

Primary Aims
The aim of the course is the introduction of the basic principles, ways of application and complications of anaesthetic methods both in theory and in practice. Students are presented with information regarding the pathophysiology and treatment of shock.

Main Objectives
Reanimation
Shock
Local anaesthesia
General anaesthesia
Complications

Hours in the Curriculum
The curriculum includes 2 hours of academic lecture about the topic of shock and 2 hours practical training session each of the following topics: reanimation, intensive care, general anaesthesia.

Method of learning/teaching
Lectures take place in great lecture halls, while practical training sessions are carried out in inpatient wards, intensive care units, operation rooms or by means of so called reanimation fantoms.

Assessment methods
At the end of the semester, students are required to give account of their knowledge in form of a final oral exam, where the ratio of the questions representing anaesthesiology are in accordance with the curriculum.

Strengths
The greatest interest among students is arised by reanimation sessions, but visiting the intensive care unit is also very popular.

Weaknesses
The teaching of anaesthesiology further decreases the already limited time frame of the surgical
course. The teaching of anaesthesia as a separate subject, independent of surgery would be more advisable. Time provided for the teaching of these topics is too short.

**Innovations and Best Practices**

The rapid developments of anaesthesiology and intensive therapy are immediately discussed within the course of practical training. According to students, one of the most useful sessions is when they can attain the methods of reanimation.

**Plans for future changes**

The introduction of the independent course of anaesthesiology and intensive care.

**12. Staff names, qualifications and e-mail addresses of the Department**

Dr. Ernő Dárdai chief medical officer
anaesthesiologist, candidate
Dr. Erzsébet Hatlaczky chief medical officer
internist, anaesthesiologist
Dr. László Szeredi attendant
anaesthesiologist
8. 4. Dermatology

Person in School who will explain and show this to the visitors:

Name:  dr. Éva Ablonczy
dr. Márta Marschalkó  marmar@sote.bor.hu

1. Introduction
Lectures: 15 hours/semester
Practicals: 15 hours/semester

2. Primary aims:
Knowledge of diagnostics, etiopathogenesis and therapy of skin diseases concerning the competency of dentists.
Assessment of the skin symptoms in connection to general medicine and dental pathology.

3. Main objectives:
Morphology, physiology, general pathology of the skin in comparison to the oral mucosa.
Infectious diseases of the skin. Skin, oral mucosa and systemic infections.
Sexually transmitted diseases.
Dermatoallergology. Atopy, urticaria, contact dermatitis. Drug eruption.
Oncodermatology. Naevi and malignant melanoma, precanceroses
Skin and oral mucosal signs of internal diseases.
Basic principle of dermatological treatment.

4. Hours in the curriculum:
Lecture: one hour/week
Practice: one hour/week

5. Assessment methods
Oral examination after the end of the semester.

7. Strength:
In the practices close contact to the patients, chance for the direct evaluation of the clinical lesions.
In the lectures modern audiovisual devices are used, the lecturers are well-known, experienced experts of the different topics.

8. Weaknesses
The time course is short- too much knowledge should be taught during too short time.
The presence of different clinical diseases could not be planned- it depends on the patient’s
population treated in the clinic.

**Innovations and best practices**

Video-demonstration, introduction of more assessments.

**12. Staff names:**

- dr. Márta Marschalkó  Associate Professor, Deputy Director
- prof. Sarolta Kárpáti, Professor
- dr. Judit Biró, Senior Lecturer
- dr. Éva Ablonczy, Sen. Lecturer
- dr. Beáta Somlai, Sen. Lecturer
- dr. Krisztina Becker, Assistant Professor
- dr. Klaudia Preisz, Assistant Professor
- dr. János Kovács Assistant Professor
- dr. Gábor Veres, Resident
- dr. Viktória Karászi, Resident
- From the State Department of Dermato-Venereology:
  - dr. Károly Nagy, Deputy Director
  - dr. Erzsébet Temesvári, Head of the Allergology Laboratory
  - dr. Gyula Simon, Head of Mycological Department
8. 5. OBSTETRICS AND FAMILY PLANNING

Person in School who will explain and show this to the visitors:
Name: Ferenc Paulin, MD. DSc., chairman
e-mail: paulin@noi2.sote.hu

1. Introduction

The course provides an overview of the main topics of obstetrics and sufficient information of family planning. The course is timed in the second trimester of the fifth year.

2. Primary Aims

The primary aim is to show the students the process of delivery, the most frequent complications associated with pregnancy and to inform of the current opportunities of family planning.

3. Main Objectives

Main objectives are as follows: Physiology of genital organs, prenatal care, changes in maternal anatomy and physiology during pregnancy, complications during pregnancy, delivery, puerperium, sterility, infertility, family planning

4. Hours in the Curriculum

Students attend lectures demonstrating patients, lasting one hour every week during the semester (totally 14 hours during the training).

5. Method of learning

Method of teaching is to hold lectures containing interviews with patients at bedside and to visit to the labor ward.

6. Assessment

Students have to visit the department in order to get the sign in the curriculum index without assessment method.

7. Strengths

Strength of the course is that most of the students show interest to this discipline.

8. Weaknesses

Weakness of the course is that some students show no interest to the obstetrics.

9. Innovations

Our innovation is using training maquettes of delivery and providing the possibility of outer examination of the pregnant patients.

10. Innovations for future

Plans for future is to obtain video tapes demonstrating the process of delivery.

12. Staff names

Ferenc Paulin MD., DSc., chairman
Attila Pajor MD., DSc., vice-chairman.
8. 6. OPHTHALMOLOGY

Person in School who will explain and show this to the visitors:
Ágnes Farkas MD, Ph.D
e-mail: farkasag@szem2.sote.hu

1. Introduction
In the dental training in Hungary, Ophthalmology is one of the general clinical subjects. Dentists trained in this manner are expected to cure not only teeth but the afflicted patient’s mouth and teeth, to recognize the oral manifestation of general illnesses, and to be aware of the general theoretical and practical aspects and relationship of medical attitude.

Ophthalmology is taught to dental students in the first semester of the fifth year of dental training, in 2 hours/week (that is, two lecture hours in one week are followed by two practicals in the next). The duration of teaching is 15 weeks, followed by the examination period.

2. Primary aims
The primary aim of the training is that dentists should be able to recognize and differentiate basic ophthalmologic diseases and emergency situations. They also should be able to give first aid in case of eye injuries.

3. Main objectives
- Differential diagnostic approach of the „red eye”
- Differential diagnostic approach of the „painful eye”
- Glaucoma (pathomechanisms, conservative and surgical treatment)
- Sudden visual loss and treatment
- Ocular injuries and first aid
- Diseases of the retina (diagnostic methods and treatment)
- Ophthalmic and oral manifestations of systemic diseases
- Intraocular tumors (diagnosis and treatment)
- Basics of optics
- Modern cataract surgery

4. Hours in the Curriculum
In the 9th semester of the dental training the subject of Ophthalmology is taught in 30 hours, of which 16 hours (two hours every second week) are used for practicals. During these practicals the students deal with patient examination.

5. Method of learning/teaching
Practical teaching: students get acquainted with the examining tools, their handling, and with the
most important diagnostic methods. At the beginning they examine each other, later they go on to examining patients under control of the practical teacher. We teach students in small groups (approx. 7 students/group); this is a requirement of the patient examination-centred curriculum. In foreign language education the 12-student-groups are not ideal at all. During the lectures, the clinical appearance of the various ophthalmologic diseases are presented on slides, and the surgical methods and procedures are shown on videos.

Students receive the questions for the final examination at the beginning of the semester.

6. Assessment methods

Practical teachers follow their students’ progress individually and at the end of the semester they assess the students’ practical knowledge and skill.

At the final examination, students have to answer two main questions and the examiner will give a grade based on the answers as well as on the previous assessment of the practical teacher.

7. Strengths

Practices are attended regularly by all students, with great interest. Any absences have to be rectified. Methods of examination are quickly learned and skillfully applied. The optimal, small-group (7 students/group) teaching is realized in the education of Hungarian students.

8. Weaknesses

Attendance of the lectures is rather poor, despite our efforts to make them more interesting and spectacular by using various visual tools. (According to the Rules and Regulations of the University, it is not obligatory to attend lectures and no “roll calls” are made.)

At present there is no up-to-date lecture book (notes) suitable specially for dental students.

The 12-student-groups in the foreign language programs do not make it possible for the practical teachers to follow each student individually during the practices.

9. Innovations and Best Practices

We are continuously improving the material and personal conditions of education (continuous updating of slides, video films showing methods of examination and surgical procedures).

To improve the education of students in foreign language curriculum (primarily in German language program), we plan to invite visiting professors for Germany.

10. Plans for future changes

In the near future we plan to write an Ophthalmology text book or lecture notes based on modern practical aspects, specially for dental students, in Hungarian, German and English languages. This will make the study opportunities equal for all students on the Hungarian, German and English language programs.

The students will have detailed information at the beginning of the semester listing all requirements
to be fulfilled.

During the semester, students will be asked for critical observation about the education. At the end of the semester the tutor will assess the knowledge and experience of each student and the students (only those who regularly attended lectures and practices!) will declare their opinion about the education-system.

12. Staff names, qualifications and e-mail addresses for this Department
Ágnes Farkas, M.D., Ph.D. associate professor farkasag@szem2.sote.hu
György Imre, M.D., D.Sc. professor in retirement, advisor
Rita Vámos, M.D., first assistant
Annamária Dekov, M.D., first assistant
Magdolna Fodor, M.D., first assistant
Zsuzsanna Récsán, M.D., first assistant
József Györy, M.D., assistant (Master of Medicine, University of Sydney)
Margit Sebestyén, M.D., assistant
Anna Szamosi, M.D., assistant
Mária Ferencz, M.D., assistant
Eszter Dura, M.D., assistant
János Nemes, M.D., assistant
Judit Horváth, M.D., assistant
Dóra Staud, M.D., assistant
Orsolya Fiedler, M.D., assistant
Rita Széchey, M.D., assistant
Melitta Papp, M.D., clinical practitioner
8. 7. Neurology and Psychiatry
Person in School who will explain and show this to the visitors:

Péter Rajna MD, Ph.D

e-mail:

1. Introduction
Dental doctors see and treat patients every day. They are also medical doctors for the majority of people so they must be able to deal with the patients’ general problems, too – including the preventive tasks of the medical staff. There are also special medical concerns supporting the importance of the topic:

- Dental symptoms and diseases in strong connection with neurological diseases
- Psychic disturbances leading to dental complications and vica versa
- Urgent neurological or psychiatric events which can occur in the dental ambulantorium.

The course must be placed close to the finish of the gradual education (4th academic year) because its understanding already needs personal experiences with patients, too.

2. Primary aims
To give informations on the connection between the neurology/psychiatry and the dental professionals

- To give the basic medical knowledge eligible to the basic general medical intelligence concerning the two professionals for the students

3. Main objectives
See items for the final examination (enclosed)

4. Hours in the Curriculum
Half-a-year course, one lecture (45 min) and one practice (45 min) per week. Observation of one – two patients in every practice

5. Method of learning
The structure of the practice: i/introduction of the patient’s problem, ii/ physical/neurological investigation and/or interview with the patient iii/ common discussion iii/ summary of the topic

6. Assessment methods
Written (three multiple choice questions) and oral exam (see ‘demo’ questions and items enclosed)

7. Strengths
Students see more than 20 neurological/psychiatric patients. They get knowledges on the general psychoterapeutical attitude which may help their routine work. In the future.

8. Weaknesses
Dental students have no general medical basis for the both professionals therefore the complexity of the course and outcome of this kind of illnesses can be understood with difficulty.

9. Innovations
We try to make the lectures more interactive, we demonstrate the cardinal or the important but rarely visible symptoms on video (e.g. epileptic seizures). In lack of the special written material for the course we make handouts of every lecture. (For one year we have already had the pocket book entitled „Table-form Neurology for physicians and dental doctors”.)

10. Plans for future
Lecture form is no more popular among the students. Their omission and change to seminars or enlarging the duration of the practices must be considered. We plan to provide the „Table-form Psychiatry for physicians and dental doctors”.

12. Staff names
Leader of the course: Peter Rajna MD PhD DSc professor of neurology and psychiatry
Coordinator Brigitta Baran MD, assistant professor (neurologist and psychiatrist)
Practice leaders Brigitta Baran MD, assistant professor (neurologist and psychiatrist)
Róbert Kárpáti MD, assistant professor (neurologist and psychiatrist)
Andrea Bodrogi MD, assistant professor (neurologist and psychiatrist)
8. 8. Otorhinolaryngology

Person in School who will explain and show this to the visitors:
Otto Ribári MD, Ph.D, D.Sc.
e-mail: ribari@fulo.sote.hu

1. Introduction
The course is taught during the 5th year, it is a one semester long course. During this semester there are 2 hour-long sessions (practice and lecture) during 15 weeks.

2. Primary aims
To study methods of examination and recognize various ENT diseases.

3. Main objectives
ENT and dentistry are borderline areas of medicine. For these students it is important to recognize various ENT signs and symptoms, to know about the special diagnostic methods, options of medical and surgical therapy. Questions of prevention and rehabilitation is also essential.

4. Hours in the Curriculum
During ENT courses, students usually spend half of the time (15 hours) examining patients - but not treating them.

5. Methods of learning
Lectures, video presentations, case presentations.

6. Assessment methods
Physical examination, X-ray, audiology, otoneurology.

7. Strengths
Student of Dentistry are generally brilliant in practice.

8. Weaknesses
These students are not the good in theoretical medical questions.

9. Innovations
There is a practice when students can try to intubate patients, also when they can perform conicotomy at the Pathology.

10. Plans for future
We would prefer more time for practice in ENT.

11. Staff names
Head of Department: Gábor Répássy, MD., Ph.D. repassy@fulo.sote.hu
Ottó Ribári, M.D., Ph.D, D.Sc. ribari@fulo.sote.hu
Marianna Küstel, M.D., Ph.D.    kustel@fulo.sote.hu
Andor Hirschberg, M.D., Ph.D.   hirschberg@fulo.sote.hu
Ágnes Szirmai M.D.               szirmai@fulo.sote.hu
Krisztina Tóth, M.D.
Gábor Kiefer, M.D.
Milós Horváth M.D.
8. 9. Pediatrics

Person in School who will explain and show this to the visitors:

György Fekete MD, Ph.D, D.Sc.
e-mail: fekete@sote.hu

1. Introduction
Paediatrics and Infectious Diseases
9th Semester

2. Primary Aims
Introduction to basic knowledge of child health care and general pediatrics

3. Main objectives
Care of newborns
Nutrition of infants
Vaccinations
Normal development of children and adolescents
Examination of the ill child
Pediatric management during illness

4. Hours in the Curriculum
Lectures 1 hour per week, a total of 15 hours
Bed-side case presentation 1 hour per week, a total of 15 hours

5. Method of learning
Lectures, case presentations, consultations, individual learning using books

6. Assessment methods
Oral examination

7. Strengths
Direct contact to patients

8. Weaknesses
Lack of an illustrated textbook of pediatrics for dental medical students

9. Innovations
Case presentation in small groups of students (4-5 students / one teacher)

10. Plans for future changes
CD-ROM on Pediatrics

11. Staff names
Gy. Fekete MD, Professor of Pediatrics
J. Sólyom MD, Professor of Pediatrics
9.1 Orthodontics

Name: Katalin Gábris DMD PhD

e-mail: gabris@gyfog.sote.hu

1. Introduction

The subject of orthodontics begins in the fifth year of dental training (semesters nine and ten). This subject consists of theoretical and practical training. The students are required to attend one lecture per week in which they learn the basics and terminology of orthodontics, Angle’s diagnostic system, etiology and symptoms of malformations, and the methods used to set up a diagnosis (using different measurements and analysis), different types of orthodontic appliances.

The practical element, in the ninth semester, comprises four hours per week. There are seminars in which the students have the opportunity to discuss with the supervisor the lecture in detail and how theory can be applied in practice.

Practical work is carried out in the treatment of patients. This practical work is divided into three parts:

1. Demonstration: students observe the treatment given.
2. Joint work: students work alongside the supervisor
3. Independent work: treatment is given by the students, under supervision.

In the tenth semester the students continue to be required to attend one lecture per week. In these lectures the students learn about the treatment of the different orthodontic anomalies with fixed and removable appliances; the role of extraction; preprosthetic orthodontics; surgical orthodontics; interceptive orthodontics; and the treatment of cleft lip and palate.

There are five hours, per week, of practice in the tenth semester continuing the work commenced in the ninth semester.

2. Primary Aims:

Our main aim is to provide the students with a general orthodontic knowledge and to encourage a preventive view.

3. Main Objectives:

The dental training does not include specialization in orthodontics, therefore we aim to give the students a broad knowledge concentrating on the following:

Etiology,
Prevention,
Diagnostics,
Early treatment of occlusal anomalies.
The relation of orthodontics with other fields of dentistry.
4. **Hours of Curriculum:**

*In the ninth semester:* One hour lecture, four hours practical work per week.

*In the tenth semester:* One hour lecture, five hours practical work per week.

75% of practical time is in treatment of patients.

5. **Method of Teaching and Learning:**

1. Lectures: theory with case presentations
2. Practice, in small groups: discussion of theory and practical work, cephalometric and model analysis.
3. Treatment of patients: anamnesis, x-rays, impressions, x-ray and model analysis, diagnosis and treatment planning, choosing appliances, participation in the treatment.
4. Consultation.

6. **Assessment Methods:**

On completing the *ninth semester* the students are graded on their practical work. The grade is from 1 (fail) to 5 (excellent) and is determined by the facts as follows:

1. Interest and participation shown in orthodontics.
2. Theoretical knowledge during the practices and written tests.
3. The amount and quality of practical work completed.

On the completion of the *tenth semester* the students receive a grade based on their practical work and must sit a final examination in which they are tested on two topics chosen at random from topics given in advance.

7. **Strengths:**

Our two main strengths are the good theoretical training and practices where the majority of time is spent on treating patients. A large number of patients come to our department, and the students have the opportunity to see a wide range of anomalies and, thus, provide different treatments.

8. **Weaknesses:**

Our weakest point is the lack of demonstration of physical and mechanical processes. Orthodontic treatment takes several months to complete and students do not have the opportunity to follow a case through to the end. This would be important to model and demonstrate tooth movement in vitro, so there would be a need for more practices on phantoms and typodonts.

9. **Innovations:**

1. We plan to develop the technical background (hardware) and to use up-to-date softwares in documentation and analysis.
2. Purchasing of typodonts.
10. Plans

More practical work with typodonts.

Making video material for demonstration purposes.

12. Append staff names, qualifications and email addresses for this Department

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualifications</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ildikó Tarján DMD, PhD.</td>
<td>Associate Professor</td>
<td><a href="mailto:TARJAN@GYFOG.SOTE.HU">TARJAN@GYFOG.SOTE.HU</a></td>
</tr>
<tr>
<td>Katalin Gábris DMD, PhD.</td>
<td>First Assistant</td>
<td><a href="mailto:GABRIS@GYFOG.SOTE.HU">GABRIS@GYFOG.SOTE.HU</a></td>
</tr>
<tr>
<td>Gábor Fábián DMD</td>
<td>First Assistant</td>
<td><a href="mailto:FABIG@GYFOG.SOTE.HU">FABIG@GYFOG.SOTE.HU</a></td>
</tr>
<tr>
<td>Miklós Kaán DMD</td>
<td>First Assistant</td>
<td><a href="mailto:KAANM@GYFOG.SOTE.HU">KAANM@GYFOG.SOTE.HU</a></td>
</tr>
<tr>
<td>Gergely Balaton DMD</td>
<td>Assistant</td>
<td><a href="mailto:BALATONG@GYFOG.SOTE.HU">BALATONG@GYFOG.SOTE.HU</a></td>
</tr>
<tr>
<td>Péter Csiki DMD</td>
<td>Assistant</td>
<td><a href="mailto:CSIKIP@GYFOG.SOTE.HU">CSIKIP@GYFOG.SOTE.HU</a></td>
</tr>
<tr>
<td>Noémi Rózsa DMD</td>
<td>Assistant</td>
<td><a href="mailto:ROZSA@GYFOG.SOTE.HU">ROZSA@GYFOG.SOTE.HU</a></td>
</tr>
<tr>
<td>Kais Salman DMD</td>
<td>Assistant</td>
<td><a href="mailto:SALMAN@GYFOG.SOTE.HU">SALMAN@GYFOG.SOTE.HU</a></td>
</tr>
<tr>
<td>Tamás Szakály DMD</td>
<td>Assistant</td>
<td><a href="mailto:SZAKALY@GYFOG.SOTE.HU">SZAKALY@GYFOG.SOTE.HU</a></td>
</tr>
<tr>
<td>Beáta Szádeczky DMD</td>
<td>Assistant</td>
<td><a href="mailto:SZADECZKY@GYFOG.SOTE.HU">SZADECZKY@GYFOG.SOTE.HU</a></td>
</tr>
</tbody>
</table>
9.2 Pediatric Dentistry (Child Dental Health)

Name: Ildikó Tarján DMD, PhD.

e-mail: tarjan@gyfog.sote.hu

1. Introduction

The study of dentistry lasts 10 semesters, Paediatric Dentistry is taught in the ninth and tenth semesters. Training consists of practical and theoretical teaching.

In the ninth semester lectures are held in 1 hour/week including the theoretical teaching of development, alterations and diseases in primary and permanent dentition as well as of their aetiology, pathogenesis, diagnosis, prevention and treatment. The curriculum also contains the diagnosis of malocclusions and treatment of simple forms of dental and occlusal disturbances (interceptive orthodontics).

In the tenth semester oral diseases, oral surgery, the use of drugs for a paediatric population, the oral effects of systemic diseases, local and general anaesthesia, sedation, and care of the medically compromised child are taught in 1 hour/week.

Practice consists of three parts:

1. Demonstration (teacher presents the case and the treatment)
2. Cooperative work (students work alongside the supervisor)
3. Independent work (the students treat the children under supervision)

Primary Aims:

The aim of the course is to provide graduating students with the knowledge necessary to take care of children and adolescents with respect to the prevention and treatment of oral diseases and malocclusion.

3. Main objectives

- approach children of various age.
- demonstrate children and adolescent with wide variety of clinical dental problems for students (planned patient order)
- emphasise the connections of dental and periodontal diseases as well as of orthodontic anomalies
- clinical training in small groups: 1 tutor/4students
- perform special treatment in phantom-head practice
- each tutor should have the ability to portray the information that she or he would address in a way that would be educationally relevant to the
student.

4. **Hours in the Curriculum**-

   *In the ninth semester* 1 hour lecture, 4 hours practical work per week
   
   *in the tenth semester* 1 hour lecture, 5 hours practical work per week.
   
   **Students actually spend treating patients approximately** : (in ninth semester 3 hours/week, in tenth semester 4 hours/week) **105 hours/year**.

5. **Method of learning/teaching**

   **Lectures:** Introductions, supplements, summaries, overviews.

   **Small group clinics:** 4-6 students with children and supervisor in dental clinics. (history, examination, oral hygiene, periodontal condition, chart the teeth present and occlusion, diagnosis, treatment). Each clinical case is discussed in detail and then the students are allowed to do the actual clinical work. At the beginning of the practice group of students discuss the previous lecture or a specific topic with teacher.

   **Books** and **free consultations** are available for students

6. **Assessment methods**

   **Practical marks** (1-5 grading system) on clinical performance must be achieved to pass in ninth and tenth semesters (achievement, activity).

   Short written assignments are carried out occasionally in the practice

   Conductivity test is made to improve efficiently the diagnostic performance in the tenth semester.

   **Oral final examination** at the end of the tenth semester.

   Students have the possibility to choose and write a diploma work

   from an important field of paediatric dentistry under the supervision of a tutor. The work can involve survey of references and original work as well.

7. **Strength**

   Practice based dentistry. In each practice classes or groups (approximately children) come from primary, secondary schools and kindergarten for treatment to the department of paediatric dentistry. The students have the opportunity to work with real patients and to see a wide range of anomalies.

8. **Weaknesses**

   Theoretical teaching is good as far as the content is concerned but some lectures are “too traditional” and students sometimes find them monotonous.

9. **Innovations**

   Raise active interest of students in lectures making video materials for demonstration purposes.
10. **Plans for future changes**

Maintain our teaching method on the high level and continue the successful "practised based " training

Develop the technical background: use of new inventions and oral video camera connected with computer system to improve the quality and efficiency of actual dental treatment and to offer special case presentations at the same time for students.

12. **Append staff names, qualifications and email addresses for this Department**

Name: Ildikó Tarján DMD, PhD.
Qualifications: Associate Professor
e-mail: TARJAN@GYFOG.SOTE.HU
Name: Gyula Hidasi DMD, PhD.
Qualifications: Professor
e-mail: -
Name: Péter Balaton DMD
Qualifications: First Assistant
e-mail: BALATONP@GYFOG.SOTE.HU
Name: Ibolya Kéri DMD
Qualifications: First Assistant
e-mail: KERI@GYFOG.SOTE.HU
Name: István Szívós DMD
Qualifications: First Assistant
e-mail: SZIVOS@GYFOG.SOTE.HU
Name: Ferenc Konrád DMD
Qualifications: First Assistant
e-mail: KONRAD@GYFOG.SOTE.HU
Name: Emese Frang DMD
Qualifications: Assistant
e-mail: FRANG@GYFOG.SOTE.HU
Name: Anikó Hárs DMD
Qualifications: Assistant
e-mail: HARS@GYFOG.SOTE.HU
Name: Katalin Mavrodisz DMD
Qualifications: Assistant
e-mail: MAVRODISZ@GYFOG.SOTE.HU
10. PREVENTIVE DENTISTRY (PUBLIC DENTAL HEALTH AND PREVENTION)

Person in School who will explain and show this to the visitors:

**Name:** dr. Nyárasdy, Ida  
**e-mail:** nyara@konfog.sote.hu.

1. **Introduction**

Preventive Dentistry has been introduced in 1983, is a separate subject since 1996 and is taught at the Department of Conservative Dentistry of Semmelweis University, Faculty of Dentistry. Our aim is to comply with the standards of University Curriculum in the European Union both in content and duration.

- Year 1, semester 1: 1 hour practice per week  
- Year 3, semester 2: 1 hour lecture per week  
- 2 hours practices per week

End of course final exam: end of 2001

**From 2002:**

- Year 4, semester 1: 1 hour lecture per week
- End of course final exam: end of semester 1.

**Final plans from 2002:**

- The course will include
  - 30 hours in the form of lectures
  - 45 hours in the form of practices

2. **Primary Aims**

Through a practice-oriented approach we want the students to acquire a preventive view to dentistry so that they become fully aware of the significance of prevention, cost-effective as it is for society as a whole.

We endeavour to reach the standards of countries with a more effective system of dental prevention and care so as to provide adequate oral service for all age-groups of society.

3. **Main objectives**

- Caries: Caries indices and epidemiological relations, characteristics of Hungarian epidemiology, risk patients
- Gingivitis and periodontal diseases. Epidemiological characteristics
- Possibilities of prevention in orthodontics
- Oralhygiene – plaque-control
Fluorides – collective and individual fluoride-prevention
Other possibilities in caries-prevention: fissure sealant, sugar substitutes
Caries incipient and remineralisation
Prevention of iatrogenic traumas, infection control
Dentine hypersensitivity
Prophylaxis in kindergarten, at schools, of pregnant mothers, elderly and other handicapped patients
Realisation of complex prevention unity of preventive and curative supply. Recall-system

4. **Hours in the Curriculum**

Year 3, semester 2, 4 times 2 hours

The students carry out the following tests on each other: CRT (Caries-Risk-Tests)

DMF-T, DMF-S indices,
OHI-S-Index, Cohen Index

and fissure-sealant on schoolchildren

Year 3, semester 2
Year 4, semester 1-2 and

**Year 5, semester 1-2**

5. **Method of learning/teaching**

Lectures with up-to-date information and good demonstration keep up the interest of the students

In practices one teacher works with 10-12 students.

Students identify the various indices, the status, etc. on each other.

In year 3, semester 2, one third of the practices can be seminars with a problem-oriented approach and students participation encouraged.

Visits include some school visits to observe group prophylaxis (after introductory lectures in year 1, semester 1) and two visits to a pediatric orthodontics centre to get an insight into integrated preventive work (in year 3, semester 2).

6. **Assessment methods**

Year 1: tests/questionnaire/

Year 3 (up to 2001): performance of minimal requirements and final exam/end-of-course exam

Regular attendance is a requirement. (No more than 25% of the classes may be missed)

7. **Strengths**

Excellent staff, qualified and experienced teachers and enthusiastic young dentists (Ph.D. students).

In the past five years the number of hours in the subject has been increased from 15 to 60.
A further 15 hours will be included in the Curriculum from 2002.

8. Weaknesses

Insufficient funding.

We are not an independent department but even so we are providing for 30 hours’ lectures and 30 hours’ practicals up to 2001.

From 2002 there will be 30 hours’ lectures and 45 hours’ practicals.

Inadequate number of teachers andadministratory staff (we have not administratory staff!)

Lack of surgery rooms

9. Innovations and Best Practices

Treatment of dentine hypersensitivity with dentine sealer

Tutorial support and advice for students who submit research papers for their yearly Students’ Research Conference

Possibilities of caries-risk-testing, CRT-test, saliva-secretion and pH-measurement

Effect of alimentation in baby-and childhood and on development of mandibula and maxilla and on the formation of parafunction

10. Plans for future changes (one paragraph)

From 2002, a further 15 lectures in Preventive Dentistry will be included in the Curriculum in year 4, semester 1.

To meet the needs we shall have to take on new staff – well-trained, young and enthusiastic.

We shall have to set up a separate department.

Staff names, qualifications and email addresses for this Department

Lecturer and tutor: Dr. Nyárasdy, Ida, associate professor, Ph.D.

Dentists of Semmelweis University, Faculty of Dentistry, Department of Conservative Dentistry:

Dr. Bartha, Károly assistant professor Ph.D.

Dr. Iványi, Iván Ph.D. student, assistant professor

Dr. Grigár Ágnes, Ph.D. student assistant professor

Dr. Pataky, Levente Ph.D. student, assistant professor

Dr. Maros, Edit assistant professor

Dr. Herczegh Anna assistant professor

Biochemist of Semmelweis University, Faculty of Dentistry Department of Prosthodontics:

Dr. Gintner Zénó Ph.D

Dentists of Semmelweis University, Faculty of Health Sciences, Department of Pediatrics

Dr. med.habil Végh, András, chief dentist

Dr. Patthy, Ágnes, Ph.D student, dentist

Dr. Borsos, Gabriella, Ph.D. student, dentist
11.1. CONSERVATIVE DENTISTRY

11.2. ENDODONTICS

Since Department of Conservative Dentistry provides educational programs both in operative dentistry and endodontics the two questionnaires concerning CONSERVATIVE DENTISTRY and ENDODONTICS have been answered together.

Person in School who will explain and show this to the visitors
Name: Dr. Árpád Fazekas, Head of the Department
E-mail: fazekas@konfog.sote.hu

1. Introduction

According to the traditions of Semmelweis University, Faculty of Dentistry the undergraduate program offered by Dept. of Conservative Dentistry involves pre-clinical and clinical courses in operative dentistry and endodontics.

Pre-clinical operative dentistry is taught in the 4th and 5th semesters, containing weekly lectures and practical phantom head exercises. Clinical conservative dentistry is taught in 5 subsequent semesters (6-10th semesters).

During semesters 6, 7 and 8th weekly lectures are provided (one/week). The theoretical knowledge is the basis of the clinical treatment part of the course.

2. Primary aim

To provide the students a good knowledge on fundamental principles and techniques in operative dentistry and endodontics. Acceptable skill, competence and responsibility are also required from students arriving to the end of conservative dentistry program.

Main objectives

In conservative dentistry to emphasize the importance of early concentration on preventive dentistry, profilaxis and fluoride treatment, obtaining fundamental knowledge on epidemiology, etiology, diagnosis and therapy of cariologial and other defects of the mineralized dental tissues, getting fundamental knowledge in pulpal physiology and pathoses, endodontic treatment measures, complications following endodontic treatment, diagnosis of pain of endodontic origin, clinical training under faculty supervision,
fulfillment of minimum treatment requirements (pensum) in operative dentistry and endodontics, early contact with research and research methods in the field of conservative dentistry and endodontics.

4. Hours in conservative dentistry and endodontics:

4th semester: pre-clinical laboratory course in operative dentistry and endodontics

5th semester: pre-clinical laboratory course in operative dentistry and endodontics

4th and 5th semesters: lectures (1 hour/week); laboratory practices (3 hours/week)

6th semester: clinical courses in operative dentistry and endodontics

7th semester: clinical courses in operative dentistry and endodontics

8th semester: clinical courses in operative dentistry and endodontics

6th-8th semesters: lectures (1 hour/week); clinical trainings (3 hours/week)

9th semester: clinical courses in operative dentistry and endodontics

10th semester: clinical courses in operative dentistry and endodontics

9th and 10th semesters: clinical trainings (3 hours/week)

5. Method of learning/teaching

The education in conservative dentistry is given in forms of lectures, seminars, demonstrations, pre-clinical laboratory work and clinical treatment;

Pre-clinical phantom head demonstrations for 8-12 students

Clinical trainings for 4-6 students supervised by one faculty

All the faculty members of the Department of Conservative Dentistry (instructors, assistant professors, associate professors and full professor) are involved in supervising the teaching process.

Assessment methods

At Semmelweis University students midterm and final examines are assessed with 5 number grade. The 5 is considered superior; 4 above average, 3 average, 2 below average, 1 failure.

For assessing pre-clinical practical work and clinical training (practical course grade) we also employ: the outstanding, meet requirements and not acceptable qualifications.

During pre-clinical (phantom) courses 3 midterm written examinations are organized per semesters.

Examinations

Practical course grade (4th-10th semesters)

Semifinal (at the end of 5th semester)

Final (at the end of 10th semester)

To have acceptable practical course grade students are expected to accomplish the prescribed “pensum”

Strength
Assignment of a grade for a student’s practical work during the semester, or during an examination is entirely the prerogative of the instructor or examiner and it cannot be changed by anyone of higher authority. In lack of fulfilling required “pensum” semester is not accepted.

8. Weaknesses
The time for clinical training is not enough. Participations of students at the lectures is uneven and inadequate. To organize sufficient patients for students and the appearance and distribution of patients during the whole semester is difficult.

Innovations
Reorganization of instrument sterilization together with Dept. of Prosthetic Dentistry.

10. Plans for future changes
 Introduction of tray system containing instruments for a given dental treatment (amalgam-, composit fillings, endodontics, etc.).
Demonstrations with operating microscope (microsurgery, crown and inlay preparation, endodontic applications).

12. Staff names, qualifications and e-mail addresses for Department of Conservative Dentistry

<table>
<thead>
<tr>
<th>Name</th>
<th>status</th>
<th>science degree</th>
<th>e-mail address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Fazekas, Árpád</td>
<td>chairman</td>
<td>Ph.D., D.Sc.</td>
<td><a href="mailto:fazekas@konfog.sote.hu">fazekas@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Nyárasdy, Ida</td>
<td>associate professor</td>
<td>DMD., Ph.D.</td>
<td><a href="mailto:nyara@konfog.sote.hu">nyara@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Albrecht, Mária</td>
<td>associate professor</td>
<td>DMD., Ph.D.</td>
<td><a href="mailto:albre@konfog.sote.hu">albre@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Bartha, Károly</td>
<td>assistant professor</td>
<td>DMD Ph.D.</td>
<td><a href="mailto:bartha@konfog.sote.hu">bartha@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Győrő, Adrienne</td>
<td>assistant professor</td>
<td>DMD Ph.D.</td>
<td><a href="mailto:gyorfi@konfog.sote.hu">gyorfi@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Nemes, Júlia</td>
<td>assistant professor</td>
<td>DMD</td>
<td><a href="mailto:nemes@konfog.sote.hu">nemes@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Tóth, Zsuzsanna</td>
<td>assistant professor</td>
<td>DMD Ph.D.</td>
<td><a href="mailto:toth@konfog.sote.hu">toth@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Ackermann, Gábor</td>
<td>instructor</td>
<td>DMD</td>
<td><a href="mailto:acker@konfog.sote.hu">acker@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Balogh, Ágnes</td>
<td>instructor</td>
<td>DMD</td>
<td><a href="mailto:balogh@konfog.sote.hu">balogh@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Csabai, Zsuzsanna</td>
<td>instructor</td>
<td>DMD</td>
<td><a href="mailto:csabai@konfog.sote.hu">csabai@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Grigár, Ágnes</td>
<td>instructor</td>
<td>DMD</td>
<td><a href="mailto:grigar@konfog.sote.hu">grigar@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Herczegh, Anna</td>
<td>instructor</td>
<td>DMD</td>
<td><a href="mailto:hercanna@konfog.sote.hu">hercanna@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Kerémi, Beáta</td>
<td>instructor</td>
<td>DMD</td>
<td><a href="mailto:keremi@konfog.sote.hu">keremi@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Kiss, Gábor</td>
<td>instructor</td>
<td>DMD</td>
<td><a href="mailto:kisg@konfog.sote.hu">kisg@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Maros, Edit</td>
<td>instructor</td>
<td>DMD</td>
<td><a href="mailto:maros@konfog.sote.hu">maros@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Pataky, Levente</td>
<td>instructor</td>
<td>DMD</td>
<td><a href="mailto:pataky@konfog.sote.hu">pataky@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Vág, János</td>
<td>instructor</td>
<td>DMD</td>
<td><a href="mailto:vag@konfog.sote.hu">vag@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Nyíri, Gabriella</td>
<td>apprentice</td>
<td>DMD</td>
<td><a href="mailto:nyir@konfog.sote.hu">nyir@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Csempesz, Ferenc</td>
<td>Ph.D student</td>
<td>DMD</td>
<td><a href="mailto:csempesz@konfog.sote.hu">csempesz@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Csillag, Mária</td>
<td>Ph.D student</td>
<td>DMD</td>
<td><a href="mailto:csillag@konfog.sote.hu">csillag@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Iványi, Iván</td>
<td>Ph.D student</td>
<td>DMD</td>
<td><a href="mailto:ivanyi@konfog.sote.hu">ivanyi@konfog.sote.hu</a></td>
</tr>
<tr>
<td>Dr. Kohut, Eszter</td>
<td>Ph.D student</td>
<td>DMD</td>
<td><a href="mailto:keszter@konfog.sote.hu">keszter@konfog.sote.hu</a></td>
</tr>
</tbody>
</table>
11. 3. Prosthodontics (Fixed and Removable Prosthodontics)

Person in School who will explain and show this to the visitors:
Name: Pál Fejérdy
e-mail: fejerdy@fogpot.sote.hu.

Introduction
This course teaches the students how to develop and implement a treatment plan for partially and completely edentulous patients. The course is taught in the 5th (pre-clinical), 6th, 7th, 8th, 9th and 10th (clinical) semesters.

2. Primary aims:
- to give proper theoretical knowledge to the students in the fields of fixed and removable prosthodontics,
to give the students adequate practical clinical experience in the above mentioned fields.

Main objectives:
to teach the necessary theoretical knowledge in the field of removable and fixed prosthodontics,
to provide proper pre-clinical practical experience in a phantom-head course that can enable the dental students to start working on patients,
to practice medical and dental history taking,
to practice oral examination and x-ray evaluation,
to teach how to build preliminary and final treatment plan,
to teach how to make complete dentures,
to teach how to make partial dentures,
to teach how to make crowns and bridges,
to teach how to combine fixed and removable restorations,
to teach how to make full mouth reconstruction with the above mentioned techniques.

Hours in curriculum:
6th semester: 1 hour lecture, 3 hours practice (phantom head)
7th semester: 1 hour lecture, 3 hours practice (patient treatment)
8th semester: 1 hour lecture, 6 hours practice (patient treatment)
9th semester: 3 hour practice (patient treatment)
10th semester: 3 hour practice (patient treatment).

Method of teaching.
The most important aspects of the theoretical knowledge are described in common core lectures.
The students are also required to study textbooks. Each practical session starts with a discussion
when the students knowledge is checked and each clinical case is discussed in detail. After this the students are allowed to do the actual clinical work.

Assessment methods
During the initial discussions, the student’s knowledge is assessed verbally. At least once in each semester a combined essay and test evaluation is done. Formal exams has to be passed at the end of the 5th, 7th and 10th semesters.

Strength:
The teaching of prosthodontics is based on practice. A wide variety of clinical techniques are taught, including extensive bridgework and full mouth reconstruction.

Weakness:
The funding for teaching is roughly about 10% of the Western-European standard. This lack of adequate financing makes it difficult to keep highly trained staff-members. Also the sophistication of the technical background is limited.

Best practices:
during the practical sessions students have priority for the dental units, students get a wide range of cases, a large variety of clinical techniques are taught (see 3. paragraph), the approach of the teaching is “practice based”.

Plans for future changes
Our best effort should go in to keep the services of our best trained clinical staff.

12. Staff names
Pál Fejérda, DMD, PhD. Head of Department
Tibor Fábián, DMD, PhD. full professor
Miklós Kaán, DMD, PhD. full professor
Pál Tóth, DMD, PhD. associate professor
Mihály Csoma, DMD, senior lecturer
Endre Somogyi, DMD senior lecturer
Katalin Szöllösi, DMD, PhD, senior lecturer
János Gerle, DMD senior lecturer
László Kádár, DMD, senior lecturer
András Kóbór, DMD, PhD, senior lecturer
Péter Kivovics, DMD, PhD. senior lecturer
Tibor Károly Fábián, DMD senior lecturer
Pál Sajgó DMD lecturer
Katalin Károlyházi DMD lecturer
Marianna Jáhn DMD lecturer
Péter Herman DMD lecturer
Katalin Kalocsai DMD lecturer
Borbála Kaán DMD lecturer
Imre Esztári DMD lecturer
Judit Gáspár DMD lecturer
Krisztina Márton DMD lecturer
Zsuzsanna Tóth DMD lecturer
Péter Czigler, DMD clinical doctor
Péter Faluhelyi DMD clinical doctor
László FejérđyDMD clinical doctor
Judit Koloszár DMD clinical doctor
Mercedes Linninger DMD clinical doctor
Katalin NemesDMD clinical doctor
Géza Kovács D. DMD specialist advisor
György Huszár DMD specialist advisor
Péter Gál informatics advisor
Lukács Biró DMD faculty junior lecturer
Tibor Dénes DMD faculty junior lecturer
Barbara Kispélyi DMD faculty junior lecturer
Péter Laukó DMD faculty junior lecturer
Attila Lesti DMD faculty junior lecturer
11. 4. Occlusion and Function of the Masticatory System. (INVOLVED IN THE PROSTHETICS DENTISTRY)

Person in School who will explain and show this to the visitors:
Pál Fejéróy Dr. Prof., Pál Tóth Dr. reader
e-mail:fejerdy@fogpot.sote.hu.

Introduction

This topic is taught as part of the pre-clinical and clinical course in prosthetic dentistry. Various aspects are taught in the 5th (pre-clinical), 6th, 7th, 8th, 9th and 10th clinical semesters.

Primary aims:
To provide the students with proper understanding of occlusion and the function of the masticatory system.

Main objectives:
to teach the morphological aspects of the masticatory system,
to teach the functional aspects of the masticatory system,
to study various aspects of occlusion and articulation on phantom heads,
to teach laboratory techniques dealing with the occlusal surface of prosthodontic appliances
to employ the acquired theoretical knowledge about the masticatory system in clinical work,
to teach the students the clinical techniques for the construction of occlusal surfaces.

4. Hours in the curriculum

It can be only estimated since these topics are not taught on their own:

- 6th semester: 1 hour / week
- 7th, 8th, 9th, 10th semester 1 hour / week.

5. Method of teaching:
Theoretical knowledge is taught in common core lectures. Textbooks are used at home by students. Pre-clinical and clinical practices are used for the teaching of the necessary practical aspects.

6. Assessment methods

The student’s knowledge is assessed verbally and clinically during the practical sessions. Formal exams has to be passed at the end of the 5th, 7th and 10th semesters.

Strength
A strong practice based teaching covers these topics.

Weakness
Some of the more sophisticated clinical techniques are used only occasionally.

Best practices
These topics are taught with strong emphasis on clinical experience.

**Plans for future**

Our best effort should go in to keep the services of our highly experienced clinical staff.

**12. Staff names**

Pál Fejérady Prof., Head of Department, Pál Tóth Dr. reader
12. Periodontology

Department of Periodontology

Person in School who will explain and show this to the visitors:
Name: Prof. Dr. Istvan Gera
e-mail: gera@szajseb.sote.hu

Introduction:
Periodontology is a clinical subject with no preclinical phantom head courses. This is a three semester course commencing at the 8th in the dental curriculum and being completed at the 10th semester.

Primary Aims:
To teach the basic theoretical principles of the etio-pathogenesis of periodontal diseases and to provide basic training for dental undergraduate students on periodontal prophylaxis and periodontal health care.

Main Objectives of the Course

to cover the following main topics on lectures, clinical practices and seminars:
- The normal anatomy and patho-morphology of the periodontium
- The role of dental plaque and its microbiology
- The pathomechanism of inflammatory periodontal disease and the role of the risk factors.
- The clinical forms of periodontal disease. Non-plaque related periodontal damages. The systemic background and the periodontium
- The main therapeutic principles of periodontal treatment
- The theoretical scheme of comprehensive periodontal therapy
- Professional oral hygiene. Individual oral hygiene.
- Periodontal surgery.
- The history and basic principles of periodontal guided tissue regeneration and its clinical application.
- Periodontal aspects in prosthodontics and Endo-periodontal connections.

Prophylaxis and periodontal maintenance care.

4. Hours in the Curriculum:
Period: the 8th semester Total weeks: 15 Hours /week : lecture: 1 practice:2
the 9th semester Total weeks: 15 Hours /week : lecture: 1 practice:2
the 10th semester Total weeks: 15 Hours /week : lecture: 1 practice:1

total number of hours lectures: 45 hours
total number of hours – clinical practices: 75 hours

5. Method of learning/teaching: lectures, practice, seminar

Assessment methods:
midterm, and practical remarks at the end of each semester and, oral and written final exam at the end of the course (10th semester)

Strengths
Up to date scientific information based on the latest literature data given during the lectures and large outpatient turnover on the clinical practices. Adequate technical – instrumental precondition for patient care.

Weaknesses:
The course is shorter than in most of the European countries, provides no preclinical phantom-head training at all and less hours for clinical chair side periodontal patient care to the students. The heaviest problem is the very limited space in the clinic and also limited number of dental chairs for students as well as for the faculty members.

Innovations and Best Practices:
Chairside individual hands on clinical training on humans. Students have full competence in professional oral hygiene practices, limited competence in certain minimal invasive periodontal treatment modalities and minimal competence in periodontal surgery, but students are allowed to assist their clinical instructors.

Plans for further changes:
The Department of Periodontology, founded in 1997 is the first independent department in periodontics in Hungary. Before 1997, the periodontal department was one of the divisions of the Department of Oral and Maxillofacial Surgery. The department’s legal status has been changed but its present location is still the same. The department is the smallest teaching unit of the Dental Faculty. At the moment its space is very limited and does not meet the requirements imposed by its teaching duties and the patients turnover (14-15,000 visits every year.) In the very near future a new location and much more space should be found for the Department. This will be a basic prerequisite for curriculum development to provide more chair-side practices and preclinical training for dental students.

Staff names, qualifications
Prof. Dr. Istvan Gera D.M.D., Ph.D. head of department
Assoc. Prof. Dr. György Kövesi D.M.D., Ph.D.
Assoc. Prof. Dr. Erika Benedek D.M.D., Ph.D. (part time)
Dr. Ferenc Dőri D.M.D., lecturer
Dr. Tibor Keglevich D.M.D., assistant professor
Dr. Emese Szilágyi D.M.D., assistant professor
Dr. Péter Windisch  D.M.D., assistant professor  
(Post doctor – being qualified as Ph.D.)

Dr. Attila Horváth  D.M.D. trainee (dental resident)

Dr. Zsuzsa Újváry  D.M.D. trainee (dental resident)

E-mail address:  gera@szajseb.sote.hu  
kövesi@szajseb.sote.hu
13. 1. Oral Surgery

Name: Dr. Tamás Divinyi
E-mail: divinyi@szajseb.sote.hu

Introduction
Oral surgery is taught throughout 6 semesters.
1. semester: introduction to oral surgery
2.-3.-4. semesters: dento-alveolar surgery /minor oral surgery/
5.-6. semesters: maxillo-facial surgery

The primary aims are:
- basic theoretical knowledge of oral surgery as a whole
- basic practical ability for treating simple minor surgical cases.

Main objectives
- local analgesia
- diagnosis and treatment of inflammations of dental origin
- complete clinical aspects of tooth extraction
- diagnosis and treatment of non-erupted teeth
- endodontic surgery
- cysts in the oro-facial region
- diseases of the maxillary sinus and the salivary glands
- maxillo-facial traumatology
- benign and malignant tumours of the oro-facial region
- the basic principles of plastic surgery

4. Hours in the curriculum
theoretical: 72 hours
practical: 375 hours, including 120 hours of „extraction-practice” outside of the university
The average time of treating patients
3 hours per week for 6 semesters /each semester consists of 15 weeks /

5. Method of learning/teaching
Book is available for the students in Hungarian, and the library is open with the international literature.
The teaching consists of open lectures, group consultations, patient, case demonstrations, surgical assistance, and supervisory treatment controls.
6. **Assessment methods:**
Case demonstrations, verbal examinations on basic treatment objectives, colloquium, rigorosum.

7. **Strengths**
High number of patients to see and treat
Early possibility for self-activity in patient’s treatment

8. **Weaknesses**
High number of students respecting the infrastructure available.

9. **Innovations**
Self-made phantom model for undergraduate practice of extraction.
Theoretical course on oral implantology; 24 hours of optional lectures, visited by the majority of the students.

12. **Staff names**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Email</th>
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<tbody>
<tr>
<td>György Szabó M.D, Ph.D.,D.Sc.</td>
<td>Professor, Head of the Department</td>
<td><a href="mailto:szabo@szajseb.sote.hu">szabo@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Tamás Divinyi D.M.D., Ph.D.</td>
<td>Professor</td>
<td><a href="mailto:divinyi@szajseb.sote.hu">divinyi@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>József Barabas M.D., Ph.D.</td>
<td>Assistant professor</td>
<td><a href="mailto:barabas@szajseb.sote.hu">barabas@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Zsuzsanna Suba M.D.,Ph.D.</td>
<td>Assistant professor</td>
<td><a href="mailto:suba@szajseb.sote.hu">suba@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Attila Fodor D.M.D.</td>
<td>Principal assistant</td>
<td><a href="mailto:fodor@szajseb.sote.hu">fodor@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Attila Szűcs D.M.D.</td>
<td>Principal assistant</td>
<td><a href="mailto:szucs@szajseb.sote.hu">szucs@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Árpád Joó Fancsaly D.M.D.</td>
<td>Professor's assistant</td>
<td><a href="mailto:joob@szajseb.sote.hu">joob@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Emese Fülöp M.D.</td>
<td>Principal assistant</td>
<td><a href="mailto:fulop@szajseb.sote.hu">fulop@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Gábor Simon D.M.D.</td>
<td>Principal assistant</td>
<td><a href="mailto:simon@szajseb.sote.hu">simon@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Gusztáv Klenk M.D.</td>
<td>Professor's assistant</td>
<td><a href="mailto:klenk@szajseb.sote.hu">klenk@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Judit Jancsó M.D.</td>
<td>Principal assistant</td>
<td><a href="mailto:jancso@szajseb.sote.hu">jancso@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Judit Klock D.M.D.</td>
<td>Professor's assistant</td>
<td><a href="mailto:klock@szajseb.sote.hu">klock@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Katalin Martonffy M.D.</td>
<td>Principal assistant</td>
<td><a href="mailto:marton@szajseb.sote.hu">marton@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Levente Pataky D.M.D.</td>
<td>Principal assistant</td>
<td><a href="mailto:pataky@szajseb.sote.hu">pataky@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Norbert Velich M.D.</td>
<td>Professor's assistant</td>
<td><a href="mailto:velnor@szajseb.sote.hu">velnor@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Szabolcs Gyulai Gaál D.M.D.</td>
<td>Principal assistant</td>
<td><a href="mailto:gyulai@szajseb.sote.hu">gyulai@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Tamás Huszár M.D.</td>
<td>Professor’s assistant</td>
<td><a href="mailto:huszar@szajseb.sote.hu">huszar@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Vizkelety Tamás D.M.D.</td>
<td>Professor’s assistant</td>
<td><a href="mailto:vizkelety@szajseb.sote.hu">vizkelety@szajseb.sote.hu</a></td>
</tr>
<tr>
<td>Zsolt Németh M.D.</td>
<td>Principal assistant</td>
<td><a href="mailto:nemeth@szajseb.sote.hu">nemeth@szajseb.sote.hu</a></td>
</tr>
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15. **2. Dental emergencies are included in the curriculum of oral surgery**
Name: Zsolt Németh
E-mail: nemeth@szajseb.sote.hu
13. 2. Radiography and Radiology

Person in school who will explain and show this to the visitors:
Name: Dr. Csaba Dobó Nagy
Email:

1. Introduction
The programme provides knowledge of oral radiology for students during the preclinical period. Necessary informations for the general dental care e.g. carrying out routine dental radiographic techniques and ability to recognize radiographic signs dentitions from normal oral conditions are taught. The programme is an integrated selection of lectures and practices which are based on scientific background completed with diagnostic and clinical skills, in the topic of dento-maxillo-facial radiology.

2. Primary aims
Primary aims of Oral Radiology course are to prepare students for the specific objectives of the subject (see below) and to successfully integrate the knowledge and skills gained into the diagnosing process in undergraduate curriculum.

3. Main objectives
Students must be familiar with biological effects of ionizing radiation, and radiation protection. They should be able to carry out routine dental radiographic techniques e.g. periapical and bitewing films as well as radiovisiographs while protecting the patient and the dental team from ionizing radiation.

Having a knowledge on panoramic radiography and advanced imaging techniques.

They must be able to assess image quality.

They should be able to prescribe radiographs to detect dento-maxillofacial conditions.

They should be able to recognize radiographic appearance of teeth and jaws.

Having an ability to recognize radiographic signs of deviations from normal in oral radiographs.

4. Hours in the curriculum
Oral radiology consists of 30 lectures and 30 practices during the preclinical period on the second semester of the third academic year.

5. Method of teaching
The methods for diagnosing the oral cavity have changed considerably in radiology. With advances in scientific knowledge comparable changes would also have been expected to have taken place in education. Changes have occurred in content of courses as well. However, the methods of dental education have stayed constant. At the moment we do not use any types of newly developed concepts of education e.g. action learning, computer based education, contextual learning, problem based learning and self-directed learning.
6. Assessment methods
The students ability in recognizing different pathological conditions are assessed in written form three times of the semester. It is compulsory to solve a minimum two of three at an acceptable level (more than 75%) to have the possibility to enter the final exam. During the semester competition at the subject is also held. If the students solve the assignments successfully (better than 90%) they would not be asked for analyzing dental radiograph films in the final exam. At the end of the third academic year there is a final examination which includes the topics of both general and oral radiology. This is an oral examination. Students are assessed by 5 grade evaluation.

7. Strengths
Our students are supposed to easily identify anatomic landmarks and should recognize different pathological conditions on periapical radiographs by the end of the course. The Oral Radiology division has a good amount of collected cases of periapical radiographs. These well ordered radiographs serve as a basis of practical hours.

8. Weaknesses
According to the present dental radiology curriculum there is not enough possibility (practices) for attaining routine dental radiographic techniques; that is our students will not be able to obtain perfect skill in carrying out taking radiographs themselves during the course.

9. Innovations and Best Practices
Expert radiologists, staff of the Oral Radiology division, have been holding discourses with their colleagues of other departments. This is the first step of our effort for the successful integration of oral radiology into the undergraduate curriculum. The continuously instructed colleagues from other departments (who train students on higher years) will be the key members of vertical integration of the curriculum. Finally the different disciplines, such as Oral Radiology will be fused into a coherent body of theory and practice.

10. Plans for future changes
Our plans involve renewing the Oral Radiology curriculum and support self study of our students. The staff is committed in harmonize Oral Radiology curriculum to European norms. We intend to provide more practice hours training of making routine dental x-ray for our students. Furthermore, digitizing our x-ray film collection and placing it on CD at students disposal, we intend to help our students in their independent practice. This computer-assisted learning (CAL) program will make it possible to increase the number of practical hours which could be devoted practicing routine dental x-ray techniques.
12. Academic staff

Csaba Dobó-Nagy, DMS, PhD; dobonyag@hotmail.com
Katalin Martonffy MD; martonffy@szajseb.sote.hu
Levente Pataky DMS; pataky@szajseb.sote.hu
Gábor Ackermann DMS; ackermann@konfog.sote.hu
**14. 1. Oral medicine**  
**Department of Periodontology**

Name: Dr György Kövesi assoc.prof.  
e.mail: kovesi@szajseb.sote.hu

**1./ Introduction:**

Oral Medicine is a clinical course without preclinical phantom head course. This is a two semester course at the 9th and 10th semester.

**2./ Primary Aims:**

To teach the students the basic theoretical principles of the etio-pathogenesis of different oral mucosal diseases and the oral symptoms of the systemic diseases. To provide basic training of dental ungraduate students on oral mucosal diseases prophylaxis and oral health care.

**3./ Main objectives of the course:**

covering the following main topics on lectures, clinical practices and seminars:
- Pathomorphology of the oral mucosa.
- Importance of medical history.
- Efflorescences
- Immunological basis of oral mucosal diseases.
- Aetiopathogenesis, clinical pictures and therapy of the oral mucosal diseases.
- The responsiveness of the dentist in the recognition and treatment of systemic diseases.
- The importance of the treatment of patients with precancerous states.
- The main exercises of the dentist in the cases of malignant oral diseases.

**4./ Hours in the Curriculum.**

Period: the 9th semester  
Total weeks: 15  
Hour/week: lecture 1,  
practice: 2.

the 10th semester  
Total weeks: 15  
Hour/week: lecture 1,  
seminar: 1.

total number of hours: lectures 30.

total number of hours: practice 30

total number of hours: seminar:15

**5./ Method of learning/teaching :**

lectures, practice seminar.

**6./ Assessment methods:**

midterm and practical remarks at the end of each semester and oral and written final exam at the end of the course (10th semester).

**7./ Strength:**
Up to date scientific information based on the latest literature data given during the lectures. Large outpatient turnover on the clinical practices. Adequate technical and instrumental oral medicine for patients care.

8. Weaknesses:
The course is same as in most of the European countries. The heaviest problem is the very limited space in the clinic and also limited number of dental chairs for students as well as for the faculty members.

9. Innovation and best practice:
Chair side individual hands on-clinical practice on humans. Students have full competence in taking medical history, limited competence to recognize oral diseases and minimal competences recognizing the signs in the oral cavity of systemic diseases.

10. Plans for further changes:
Oral Medicine is educated together with Periodontology. The Department of Periodontology was founded in 1997. The Oral Medicine became an independent subject in 2000. Before 1997 periodontal and oral medicine department was one of the division of the Department of Oral and Maxillofacial Surgery. The department,s legal status has been changed but its present location is still the same. This Department is the smallest teaching unit of the Dental Faculty and educates two subject (Periodontology and Oral Medicine). In yearly the patients turnover is 14-15 000. In the very near future a new location and more space should be found for the Department. This will be a basic prerequisite for curriculum development to provide more chair-side practices and preclinical training for dental students.

12. Staff names and qualifications:
Prof. Dr. István Gera D.M.D. PhD. Head of the Department
Assoc. Prof. Dr. György Kövesi D.M.D. Ph.D. responsible for teaching Oral Medicine
Assoc.Prof. Dr. Erika Benedek, D.M.D. Ph.D. (part time)
Dr Ferenc Dóri lecturer
Dr Tibor Keglevich D.M.D. assistant professor
Dr Emese Szilágyi D.M.D. assistant professor
Dr Peter Windish D.M.D. assistant professor
(post – doctor – being qualified as Ph.D.)
Dr Attila Horváth D.M.D. trainee (dental resident)
Dr Zsuzsa Újvári D.M.D. trainee (dental resident)
14. 2. Oral Pathology

Name  Dr Zsuzsanna Suba
E-mail: suba@szajseb.sote.hu

1 Introduction

The oral pathology is taught through

- 2 semesters in the third year.
  1. Semester: General pathologic problems in the oral region.
  2. Semester: Special oral pathology -
     Oral manifestations of generalized diseases. Diseases of special oral
     regions /salivary glands, jaws, temporomandibular joints /

2. Primary aims:

- Basic theoretical knowledge of causes, development and effects of oral diseases.
- Being aware of the diagnostic value of clinical, radiographic, microscopic,
  biochemical and other examinations, and basic treatment possibilities

3. Main objectives

  1. Developmental anomalies of the oral cavity and teeth.
  2. Physical and chemical injuries of the oral cavity.
  3. Etiology, pathogenesis and morphology of dental caries and periodontal diseases.
  5. Premalignant lesions of the oral structures.
  8. Pathology of the salivary glands.
  9. Pathology of the jaws and the temporomandibular joints.

4. Hours in the curriculum

  - theoretical 30 hours /1st semester/
    15 hours /2nd semester/
  - practical  15 hours /2nd semester/

5. Method of learning/teaching

  - Hungarian book is available, and international literature in the library
  - The teaching comprises open lectures and group consultations,
    Practices consist of case demonstrations, clinical and radiological photograph
    demonstrations, and histologic slide seminars.

6. Assessment methods:
- Verbal examinations on main objectives
- Photograph analysis
- Histologic slide analysis

7. **Strengths**
Richness and variety of clinical cases, photographs and slides.

8. **Weaknesses**
High number of students for two teachers

9. **Innovations**
Video film demonstration of interesting cases

12. **Staff names, qualifications and email addresses for this Department**
   - Zsuzsanna Suba M.D. assistant professor suba@szajseb.sote.hu
   - József Honti M.D. Principal assistant honti@szajseb.sote.hu
15. 1. INTEGRATED PATIENT CARE

Person in School who will explain and show this to the visitors
Name: Prof. Dr. Árpád Fazekas, Head of Department of Conservative Dentistry
e-mail: fazekas@konfog.sote.hu

Prof. Dr. Fejérdy Pál, Head of Department of Prostodontics

1. Introduction
This course teaches the students to unify their knowledge gained during the study of various clinical subjects. During the 9th and 10th semesters the students treat patients with various clinical problems. The importance of patient assessment, oral examination, diagnosis and overall treatment planning is emphasised. The teaching staff comes from the Department of Conservative Dentistry and Prosthetic Dentistry.

Primary aims:
- to teach the students to integrate the theoretical and clinical knowledge learnt during their previous studies,
- to enable the students to work under minimal supervision after graduation as required by law (36/1996).

Main objectives:
to develop overall diagnostic skills,
to teach overall treatment planning,
to emphasize the sequence of various treatments during the clinical management of patients,
to demonstrate how to use theoretical knowledge in clinical work,
to improve clinical skills,
to teach the practical management of more than one patient in circumstances close to dental practice situation.

Hours in the Curriculum
This course is taught for one year (9th and 10th semesters). One semester consists of 15 weeks.
Students treat patients for 6 hours per week.

5. Methods of teaching:
each practical session starts with the discussion of the clinical cases. This is lead by a teacher from the Dept. of Cons. Dent. and by a teacher from the Prosthetic Department. After this the students treat their own patients under supervision. In the 10th semester they are required to try to work more on their own.
Assessment methods:
the theoretical and practical knowledge of the students is checked during the initial oral
discussion. The treatment of the patients is done under close supervision, each step has to
be approved by the teacher.

Strength
This teaching approach gives an introduction to the students how patients should
be managed in actual dental practice.

Weakness:
The large number of the patients makes it difficult to keep the students under close supervision.

Innovations and Best Practices
This way of education gives a chance to students to work in a situation which is close to an actual
dental practice.

Plans for future
To review if the new two years vocational training scheme, which takes place after the graduation,
makes it necessary to modify the integrated teaching

Staff
Department of Conservative Dentistry – Prof. Dr. Árpád Fazekas
Department of Prosthetic Dentistry – Prof. Dr. Pál Fejérdy.
15. 2. Dental Emergencies

This chapter is included in the Oral Surgery
15. 3. Care of Special Need Patients

1. Functional, phonetical, esthetical and dental restauration of patients with defects caused by developmental disorders (cleft lip and palate) with the help of fixed and removable prostheses. Prosthetic rehabilitation of the maxillofacial defects of patients after tumor excisions with the help of temporary and permanent dental appliances:
   a. intraoral maxillofacial restorations,
   b. extraoral maxillofacial restorations

The prosthetic rehabilitation is carried out in a team work, together with doctors of the university institutes and external hospitals, who are dealing with the basic diseases.

Our department is ready for the care of special need patients on the base of a preplanned schedule. Most of the cases are minor surgical interventions under general anaesthesia. To the complete dental rehabilitation of mentally handicapped patients belong also the narcosis or conscious-sedation cases.
15. 4. ORAL DIAGNOSTICS

name: Dr. Gábor Nagy
e-mail: nagyga a net.sote.hu

Introduction:
The subject of oral diagnostics has been introduced into our curriculum just recently as the result of
the previous visitation of the Dental Faculty. In 1994 the visiting group of ADEE believed that the
curriculum in that time was treatment orientated, and proposed to change it into a more
patient/diagnosis orientated way.

1. Introduction
The course interrelates with basic medical sciences, e.g.: microbiology, general and oral pathology,
pharmacology; clinical medical subjects e.g.: radiology, internal medicine, dermatology etc.; clinical
dental subjects (periodontology, oral medicine, oral surgery, conservative dentistry, prosthetics).
The course is sequenced into the 2nd semester of the fourth and the first semester of the 5th academic
years. Due to this timing students are familiar with the basic informations related to the above
mentioned basic and clinical subjects.

2. Primary aims:
to give students a coherent understanding of the principles and methods in oral diagnostics
to train students to such a level that they can conduct a clinical investigation, diagnosis and
treatment planning in clinical dentistry

3. Main objectives:
To teach students,
to take a proper case history including medical and dental history,
to carry out a comprehensive oral examination (including the whole maxillofacial region),
to search for oral and dental diseases,
to recognise deviations from normal
to diagnose oral and dental diseases,
formulate a long-term treatment plan,
to assess the general health of the patient and its relationship with dental treatment plan,
to recognise the oral manifestation of systemic diseases and refer the patients if necessary.

4. Hours in the curriculum:
- 2nd semester of 4th year:
  -- Lectures: one hour per week (15 hs as a sum)
  -- Practicals: one hour per week (15 hs as a sum)
- 1st semester of 5th year:
--Lectures: -
--Practicals one hour per week (15 hs as a sum)

5. Method of teaching /learning:
The methods of teaching are theoretical lectures, and clinical practices. Lectures are concentrated on basic aspects of formulating a clinical diagnosis, principles of taking a case history, and formulating a dental treatment plan. Lectures also stress the theoretical connections between different medical subdisciplines and dentistry.

During the clinical practices students examine new patients, diagnose the dental and oral diseases, if necessary they can refer their patients to other departments. Students also set up a treatment plan, which should be presented as a written case presentation for their teachers.

6. Assessment methods:
In one semester four complete case presentations should be presented during practices. The practical work is evaluated with mark 1 to 5. The successful practical work is essential to sit for the oral exam.

At the end of the course an oral examination is performed, the questions consist of the topics of practices and theoretical lectures.

7. Strengths:
A well trained, experienced teaching staff, collaborating with international organizations (DENTED, ADEE)
- incorporating the newest educational trends and methods into the curriculum

8. Weaknesses:
There is no separated, clinical room, independent from other department for education of this subject
- limited number of staff
- lack of Hungarian textbooks

9. Innovations and best practices:
Oral video camera and digital camera are now available for documentations

10. Plans for the future changes:
-- editing a basic Hungarian textbook
-- to construct a new patient card for proper recording
-- to increase the use of digital techniques in patient documentation

11. Staff
Dr. Gábor Nagy MD, PHD, associate professor,
Dr. Tibor Fábián jr. DMD, PHD, senior lecturer,
Dr. Krisztina Márton, DMD, lecturer
16. 1. A. BEHAVIOURAL SCIENCES

Dr. Kopp Mária  
Head of Department of Medical Sociology  
Person in School who will explain and show this to the visitors:  
Name: Dr. Zsuzsa Szántó  
e-mail: szanzsu@net.sote.hu

Introduction

The one-semester course of Sociology of Dental Health which is taught in the fourth year explains the social setting of dental practice: how it effects the working environment of dental service and how it influences the oral behaviour of the population.

The primary aims

of the course are to help would-be dentists to understand the social conditions surrounding the dental practice, and the social conditions effecting help-seeking behaviour and compliance of the dental patient.

Main objectives:

Description of social factors that influence the oral status and oral behaviour of the dental patient:  
social inequalities in oral health,  
the role of culture and sub-culture, knowledge, beliefs, and attitudes in oral health behaviour,  
connections between quality of life, oral hygiene, and dental status,  
factors influencing patient satisfaction,  
Presenting the process of professional socialisation and the development of professional attitudes of dentists during education and practice,  
situation of young dentists in early periods of their practice,  
changing professional attitudes of young dentists,  
social status and prestige of dentists in Hungary in the process of the privatisation of medical service,  
Presenting the methods of medical sociology: methods of sampling, measurements of social situation and attitudes.

Hours in the Curriculum:

5  90-minute lectures  
10  90-minute practicals (discussions)

Topics:

Introduction: Links between oral epidemiology, preventive dentistry and sociology of dental health  
International surveys on oral status and oral health practices of populations  
Hungarian surveys on social factors influencing oral status and oral health practices  
Professional stratification, social situation and professional attitudes of dentists.
Summary of the lectures, conclusions, discussion

Semi-final exam

7–14. The social demography of health and oral health: an understanding of the distribution of disease and illness in society, especially as they relate to gender, race, education, and income.

The relationship between lifestyle and disease; values and norms, nutrition and consumption, social stress, and help-seeking behaviour from the point of view of oral health behaviour.

The socialisation experiences and professional role development of physicians and dentists.

The dynamics of the dentist-patient relationship.

An understanding of the health care delivery systems and the health care policies in selected countries, including Hungary, Western European countries, and the United States.

Health care reforms in Hungary: quality, costs, distribution, and the role of the government and the market.

15. Course summary, conclusion.

Methods of learning/teaching:

Lectures are based on WHO statistics and on data from international and Hungarian surveys in the field of medical sociology and social epidemiology. During practicals, teacher and students discuss themes of sociology of dental health, explaining practice experiences of the students and selected case studies through the perspective of medical sociology.

Assessment methods:

The lecture block is followed by a test-type semi-final exam. The practical block is followed by either a written or an oral final exam (students may choose the form best suitable to them).

Strengths:

Sociology of dental health uses both the students' previous knowledge on preventive dentistry, especially on epidemiology, and their clinical experiences. Thus the concepts of medical sociology can be better understood and practice-related.

Weaknesses:

Explaining social phenomena would require a broader understanding of the concepts of social sciences than our students have. Without even the basic knowledge on their part, interpretations of facts and experiences sometimes are on the edge of being either superficial, or too complicated. Another weakness is the lack of an adequate textbook.

Innovations and best practices:

We are currently working on a sociology textbook for dental students. During lectures, we introduce the future chapters of the textbook and every student is given handouts that outline the most
important points.

We have recently introduced a special sociology fieldwork: students collect data using sociological survey methods (short questionnaires or interviews) and then study groups analyse the data. This way they have firsthand experience on how individual features of particular persons produce abstract characteristics typical to a group – a concept of any statistical analysis based on the law of large numbers.

**Plans of future changes:** Our most important plan is to finish, test, and refine the new textbook for *Sociology of mental health*, and then to introduce it in the teaching process.

**Staff members:**
Szilvia Ádám, sociologist, univ. diploma, adaszil@net.sote.hu
Klára László, sociologist, univ. diploma laszkla@net.sote.hu
Dr. László Molnár sociologist, PhD, mollasz@net.sote.hu
Éva Susánszky, sociologist, univ. diploma suseva@net.sote.hu
Dr. Zsuzsa Szántó, sociologist, univ. doctor, szanzsu@net.sote.hu
16. 1. B. Behavioural Sciences

Dr. Kopp Mária  
Head of the Department of Bioethics  
Person in school, who explain and show:
Dr. József Kovács  
e-mail:kovjozs@net.sote.hu

1. Introduction

Title of course: Medical Ethics  
Time of teaching: Faculty of Dentistry (4th year, 1st semester)  
The number of hours: 30 hours practicals.  
Examination: semi-final

2. Primary aim:

To provide bioethical knowledge and methods necessary in dentistry practice.

3. Main objectives:

Systematic, interdisciplinary analysis of moral questions raised by modern medicine and biology.  
The role and values in the regulation of behaviour, basic ethical principles and life sciences, health  
as a value, the ethics and the medical decisions and public health decisions. Introduction of a  
conceptual-logical system, which helps the student to analyse and to solve common ethical  
problems in modern medicine.

4. Hours in the Curriculum

1. week: Basic concepts of ethics. – 2 hours  
2. week: Normative theories of ethics. – 2 hours  
3. week: The basic principles of dental ethics. – 2 hours  
4. week: The concept of health and disease. – 2 hours  
5. week: The dentist-patient relationship – 2 hours  
6. week: Informed consent. – 2 hours  
7. week: Justice in Health Care I. Ethical questions of macroallocation. – 2 hours  
8. week: Justice in Health Care II. Ethical questions of microallocation. Moral dilemmas in the  
allocation of scarce medical resources. – 2 hours  
9. week: Ethical questions of reproductive medicine. – 2 hours  
10. week: Information disclosure to terminally ill patients. Telling the truth to patients. – 2 hours  
11. week: Euthanasia. – 2 hours  
12. week: Ethical questions of animal experimentation – 2 hours  
13. week: Ethical questions of human experimentation – 2 hours  
14. week: Ethical questions of organ- and tissue transplantation. – 2 hours  
15. week: The rights of patients. Medical codes, oaths, and declarations. – 2 hours
5. **Method of learning/teaching**
- use of philosophical approach in handling ethical dilemmas;
- critical analysis of ethical problems;
- discussion of case studies;
- study of ethical codes, declarations.

6. **Assessment methods**
The course is followed by either a written or an oral final exam (students may choose the form best suitable to them)

7. **Strengths**
We do not have a uniform approach to bioethical problems. Some of us are in favour of the Anglo-Saxon tradition, which uses the method of analytic philosophy to solve ethical problems. Others prefer a more existentialist, hermeneutical attitude towards ethical dilemmas.
The most topical issue in Hungary right now is the doctrine of informed consent, the ongoing debate about euthanasia, and the allocation of scarce medical resources. Thus, in the last period our center concentrated on these issues.

8. **Weaknesses**
We do not offer enough clinical bioethical practice for students: visits and debates with clinical professors. We do not have enough audiovisual materials for analysing cases.

9. **Innovation and Best Practice**
- discussion of cases
- critical analysis
- interdisciplinarity

10. **Plans for future changes**
In the future we plan to try to integrate our subject more closely into the behavioural sciences curriculum. There are many possibilities for this, since almost all the ethical problems have psychological, communicational, etc. aspects, which could be taught more effectively together.

12. **Staff**
The staff of the Department of Bioethics consists of 8 members.
József Kovács PhD (Head of the Department): Physician and a philosophy teacher.
E-mail: kovjozs@net.sote.hu
Tamás Csapody PhD: Lawyer, sociologist. E-mail: csaptam@net.sote.hu
Ágnes Dósa: Physician and a lawyer. E-mail: dosagi@net.sote.hu
Katalin Hegedűs PhD: Sociologist, mental health specialist. E-mail: hegkati@net.sote.hu
Jenő Lőrincz: Physician and a lawyer. E-mail: lorjen@net.sote.hu
Ilona Pellei: philosophy teacher.
Imre Szebik: Physician. E-mail: szebimre@net.sote.hu
Katalin Szenesi: philosophy teacher.
16. 2. Communications

The title in the curriculum: **INTRODUCTION TO MEDICAL INFORMATICS**

Person in School who will explain and show this to the visitors:
Name: **Dr. Jávor András**
email: [javor.andras@mail.datanet.hu](mailto:javor.andras@mail.datanet.hu)

1. **Introduction**

   The program in *Introduction to Medical Informatics* trains students in the application of computer and information sciences to the quantitative aspects and decision needs of the health and life sciences. Medical Informatics encompasses not only mathematics, statistics and computing, but also includes other engineering, management, and information sciences applied to problems arising in biology, medicine and the delivery of health care. In addition to basic biostatistical and computing techniques, it is necessary that students be familiar with other methodologies such as mathematical modelling, systems analysis, image and signal processing, management information systems and decision sciences.

   Possible areas of emphasis include health information systems, biomathematical modelling, evaluation of health programs, system development, clinical decision studies, and health computer sciences.

2. **Primary Aims**

   to teach medical students the basic principles of using information technology and general-purpose software in medical activity
   - to help students to learn skills of using telecommunication systems and information resources on the Internet in education, learning, research and clinical practice.

3. **Main objectives**

   1. Health care and organisations. Data and information in health care. Types of clinical data (text, sound, image)
   2. Data transmission and telecommunication. The Internet.
   3. Informatics in the dental surgery. The electronic medical record. Information systems
   4. Structuring and representing medical knowledge. Evidence and case bases
   5. Dental information on the internet

4. **Hours in the Curriculum**
1 lecture + 2 practices / week / 2. semester of year
practical course grade

5. Method of learning/teaching
   Method of learning: PowerPoint slide
   Method of teaching: computer

7. Assessment methods
Practical mark.
Students will have to sit for three Practical Midterm Exams (practical problem solving using the Information Technologies, evaluated by marks from 0-5), in the 5th, 9th and 13th weeks. The semester will only be accepted if two of these Midterm Exams is successful. Unsuccessful midterm exams can be repeated, until the end of the semester.
The practical mark is the average of the three Practical Midterm Exams.
   a) Signature.
      Students will have to sit for a Theoretical Midterm Exam (multichoice test from the matter of the lectures, evaluated by pass or fail) The semester will only be accepted if the Theoretical Midterm Exam is successful. Unsuccessful midterm exam can be repeated, until the end of the semester.

7. Strengths
High qualified professional staff from the area of the Health Care and the IT sciences can find the proper balance and build a bridge over the gap of that two area.

8. Weaknesses
Due to the poor financial conditions we are not able to introduce the newest technologies in practice.

9. Innovations and best practices
   • Problem based learning
   • Teleeducation
   • Internet based testing

10. Plans for future changes
   a.) Increasing the capacity of the computer laboratories (by purchasing new computers to the existing laboratories and installing a new laboratory)
   b.) Introducing the newest technologies (such multimedia, videoconference, telematical applications, wireless technologies).

12. Staff names, qualifications and email addresses for this Department
<table>
<thead>
<tr>
<th>Name</th>
<th>Qualification</th>
<th>e-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andras Javor MD</td>
<td>Medical Doctor</td>
<td><a href="mailto:javor@inf.sote.hu">javor@inf.sote.hu</a></td>
</tr>
<tr>
<td>Zoltan Sara</td>
<td>Electrical Engineer</td>
<td><a href="mailto:sara@inf.sote.hu">sara@inf.sote.hu</a></td>
</tr>
</tbody>
</table>
16.3. Ethics and Jurisprudence

Person in school who will explain and show this to the visitors:
   Name: Endre Felszeghy, M. D.
   Email: sotpet@igaz.sote.hu

1. Introduction
   The course: Forensic Dentistry for 5th year dental students (IXth semester) is taught in 15 academic lectures. The curriculum includes the notes from the lectures and selected chapters from the book; P. Sotonyi: Basic Forensic Medicine. At the end of the semester verbal exam follows (2 items to explain)

Primary aims:
   Acquisition of basic medico-legal knowledge
   Professional and legal regulation of dental practice
   Integration of dental practice into society

Main objective:
   Dentist’s role in human identification
   Expert review of dental and facial injuries

Insurance medicine with dental aspects
   Pedigree analysis and its dental relation
   Relationship of dental practice and crime
   Professional and legal regulations in medical / dental practice

Hours in curriculum:
   15*1 hour

Method of learning:
   Presentations in lecture hall, ample illustrations, case reviews, videos

Assessment:
   Final verbal exam with two questions to explain

Strengths:
   Review of current cases and litigations

Weaknesses:
   Lack of practical sessions, detailed demonstration of dental expert witness’s work

Innovations:
   Video projection, review of current cases in our forensic dental work

Future plans:
   Adaptation of multimedia teaching methods (computers), practical, live demonstration forensic examination (with patient’s permission), visiting courthouse trials.

Staff names
   Endre Felszeghy, M. D.
   Lajos Ackermann, D. MD.
   Albert Antal, M. D., Ph.D.
   Laszlo Szabo, M. D., Ph.D.
16. 4. PRACTICE MANAGEMENT

Person responsible for the course: Dr. Mihály Orosz, DMD, PhD.

1. Introduction

The course "Dental practice management" started 6 years ago for graduate dentists. The Fondation Suisso-Hongroise pour le développement de petites et moyennes enterprises en Hongrie (Swiss-Hungarian Foundation for the Development of Hungarian Enterprises) financed the issue of a textbook edited by Dr. Mihály Orosz. Three years ago, on students’ initiation, the course was integrated into the undergraduate dental training curriculum. First being optional, now it is a compulsory subject in the 10th semester for the undergraduate dental students. Our programme was taken and taught by other Dental Schools as well. The main topics are: launching and maintaining dental enterprises; legal and financial regulations for medical enterprises; tax laws; managing the dental office; organising work processes; quality insurance; innovation; marketing; prices; relationship between: dentist and patient, dentist and assistant, dentist and technician.

2. Primary Aims

Because practice management is not part of any other subjects, our main goal is to provide students before they graduate with plenty of practical knowledge about launching and maintaining a dental enterprise in the changing economical situation.

3. Main objectives

Providing information in the following fields:

- enterprises
- law
- economics
- finance
- taxation
- insurance
- quality insurance

4. Hours in the Curriculum

One lecture per week in the 10th (last) semester.

5. Teaching Methods

Lectures (slides, OHP, audio-visual materials etc.)
6. Assessment
At the end of the semester students sit a test. There is no grading, but the minimal requirement to have one's index-book signed is to answer 50% of the questions correctly.

7. Strengths
The main strength is the content of the subject: it comprises practical and useful knowledge preparing students for their future dental practice. Lectures are given by well-known specialists both from the university and other institutions (e.g. Ministry of Health, Ministry of Finance, Health Insurance Office). Lecturers provide up-to-date information about practice management.

8. Weaknesses
There are not enough hours in the curriculum. There is no Department and administrative office in the Faculty responsible for the course.

9-10. Innovation and plans for the future
Extending the course could be justified, because of the high interest and attendance of the course (70-100% of students attend the lectures).
Creating a Department and an administration office would be necessary.
Our further plans for the future are:
to raise the number of lectures
to compile a new textbook
to render the assessment more strict (grading instead of index-book signature)
17. EXAMINATIONS, ASSESSMENTS AND COMPETENCES

Person in School who will explain and show this to the visitors:
Name: Prof. Dr. Istvan Gera
_e-mail:_  gera@szajseb.sote.hu

The overall approach to assessments

in the Dental Faculty is rather summative. Though during the semester students are subjected to midterm demonstrations and the practical grades expresses how successfully accomplished the practical part of the course by a student, the decisive form of assessment are still the traditional semifinal and final exams at the end of the semester or at the end of the course. Should the student does not obtain practical grade from his/her instructor the semester is failed and has to be repeated.

Exams’ motivating force:

Unfortunately because of the overwhelming importance of the semifinal and final exams in our academic assessment system the exams are the strongest motivating factors for students. In this way many students are not encouraged for continuing learning during the whole semester. It is because lecture attendance is not mandatory according to the University’s Study and Examination Rules, many students are to study just during the examination periods to prepare themselves for the exams and do not always attend the theoretical lectures and follow the themes on the lectures.

Strengths:

In certain subjects (conservative dentistry, prosthodontics, phantom head courses) the objective requirements for the clinical and laboratory practices are well defined. Students have to complete a given number of clinical cases or works to have the practical part of the course be accepted by the instructor. The questions for the oral and written semifinal and final exams are provided to the students at the beginning of the semesters to allow time enough to study and look up in the textbooks.

Weaknesses

Most of the semifinal and final exams are oral exams. Consequently the students performances are partly based on odds and some subjective human factors from the examiner side. In certain dental subjects, like periodontology, oral medicine, oral surgery, orthodontics in which the practical quantitative and qualitative requirements cannot be numerically defined the evaluation and assessments of the practical performance provided by a student is much more subjective than in case of prosthodontics or conservative dentistry.
Innovations

More and more multiple choice tests and written essays are used to assess students’ knowledge.

Plans for further changes:

The whole system of assessment is to be changed within a year as the credit system will be introduced in the Semmelweis University and also in the Faculty of Dentistry. This will enhance the continuing learning as well as the more continuing assessment of the students. It is because 80% of all the lectures should be attended by the students to get credit it will also improve the efficacy of the lectures and the continuing learning.

The role of external examiners

External examiners are not included into the semifinal and final exams. Only the Final Board Exam gives opportunity to external examiners (mostly senior private practitioners) to be member of the examining team.

What formal completion of an exam is required of the school for students to qualify and register as dentists:

At the end of the 10th semester after having all the required final course exams been successfully passed students should seat down for the Final Board Exam. The Final Board Exam has a written and an oral part. The written part covers the whole theoretical, preclinical, medical and dental curricula. The oral part consists of a comprehensive practical chair-side dental patient examination and treatment planning and theoretical oral exams. Students are also obliged to write a diploma work (dissertation) on a chosen topic and successfully defend the theses ahead of group of senior staff members two months before the start of the Final Board Exam.

The competence required by law to get the D.M.D. degree and to be registered by the Hungarian Medical Chamber and Registrar:

The dentist sitting for the Final Board Examination: (D.M.D. Degree)

GENERAL OBJECTIVES

1 should be familiar with the bases of personal and social health protection; with the
common health injuries, their symptoms, prevention possibilities and their treatment.

2 should be familiar with the tasks of prevention, diagnostics, therapy and rehabilitation of diseases belonging to dentistry; she/he should be able to use his knowledge in providing basic cure.

3 should possess appropriate knowledge and practice in order to form adequate interpersonal relations with the patients as well as with the members of the health team during his work as a dentist.

4 should be able to continuously expand and renew her/his professional knowledge independently and/or in the form of organized education and to use his acquired knowledge during his everyday activities as a dentist.

6 should have proficiency in a world-wide language required for up-to-date and high level activities in her/his profession.

7 should be familiar with the basics of health informatics and be able to use them in the course of performing tasks belonging to her/his field of work.

SPECIAL OBJECTIVES OF DENTIST TRAINING

The dentist sitting for the state examination-

1. should be able to establish the aimed, precise and professional case history of the examined person and/or of his environment;

2 should be familiar with the concept of health and its criteria; and should be able to determine whether the examined person from dental aspects satisfies the criteria for health, shows a pathological change, if a pathological change is present, what are its main features, he should be able to describe and document his findings in a professional way;

3. should possess appropriate theoretical knowledge and experience to be able to use clinical and instrumental methods of examination necessary for his work in basic dentistry, to evaluate the results of these examinations and to reach the right conclusions from the results of the examinations;
4. should know the essence of major dental diagnostic procedures and methods, the information to be expected, the indications and contraindications of these examinations, their associated risks and the diagnostic value of the results;

5. should be familiar with the symptoms of common dental and oral diseases as well as with symptoms of general diseases manifested in the mouth. He/she should be able to decide whether dental intervention, referral to a general physician or specialist, or some other measure is needed.

6. has to recognize diseases requiring immediate dental intervention and has to be properly skilled to perform life-saving interventions, medical first aid;

7. should know the aetiopathogenesis and early diagnostics of the (more) common dental and oral diseases and of general diseases accompanied with oral symptoms, and also the possibilities and methods of their treatment;

8. should know the essence of major dental therapeutic procedures, the theoretical and practical bases of these procedures and also their expected results and side effects of these therapeutic interventions;

9. should be familiar with the operation of major medical apparatus/instruments and be able to handle the ones used in basic care; he should be informed about their work safety and labor health regulations;

10. should be familiar with the system of dental and oral surgical screening examinations with special respect to oncological prevention, and he should be adequately skilled to use them in basic care and to recognize cases requiring specialist treatment;

11. should be familiar with the methods of stomatological prevention, be able to use them in basic care and in the health education of the population, and he/she should also be able to cooperate with teams working in this field;

12. has to acquire and possess all the manual skills which enable her/him to perform basic dental care;

13. should be familiar with the indications and associated risks of surgical interventions concerning the mouth, the face and the jaw bone and he/she should also know the conditions of applicability of these operations;

14. should know the materials used in dentistry and their main characteristics, indications and possible contraindications of their use;

15. should be familiar with the possibilities and methods of oral rehabilitation and should be adequately skilled in rehabilitation after-care provided in basic care;
16. should be properly informed about the psychological and sociological aspects of diseases occurring in basic dental care, and he/she should be able to make use of his knowledge in his everyday work;

17. should be familiar with the aetiopathogenesis and prevention of basic public health and epidemiological diseases;

18. should know the principle of dental infection control, the necessity of its application in practice and its possibilities;

19. should be properly informed about the ethical and legal aspects of dental activity and he/she should comply with them and use his knowledge in practice;

20. should be familiar with the system of medical insurance and with the organizational structure of health service, with special respect to the system and financial regulations of dental care;

21. should possess adequate knowledge of dental technique to be able to supervise dental technical work and to judge the finished products.

**LEVELS OF COMPETENCE**

The dentist sitting for the Final Board Examination:

1. In accordance with the general and special objectives of dentist training the competence levels of the dentist, working in basic care are the following:

   - complete competence
   - partial competence
   - minimal competence

2. The level of complete competence means that he/she should be able to diagnose the diseases/disease groups belonging to the domain of complete competence with professional guidance; he should be able to provide treatment and, if necessary, care for these patients.

   He/she may ask for a specialist’s consultation/institutional help – laboratory examinations, X-ray laboratory examinations etc. - to establish the diagnosis, but he/she should be able to evaluate the results of these examinations and to draw the proper conclusions. Based on these he/she should be able to establish the final diagnosis and to set up the required therapeutic plan; if necessary, to plan and carry out the process of care.

   Following from the foregoing the category of complete competence includes the commonly occurring dental and oral diseases and oral symptoms of general diseases which can be diagnosed
with simple examinations; their treatment does not require special instruments, apparatus or facilities.

This category includes clinical pictures requiring dental first aid or emergency treatment which the dentist should be able to provide in basic care. Health authority tasks belonging to the field of basic dental care also belong to this category.

3 \textit{Partial competence} means that with a given dental and/or oral disease the dentist recognizes the probable disease group; he is able to evaluate the severity of the disease and to outline alternative solutions with professional guidance.

After the establishment or recognition of the precise diagnosis he/she refers the patient to a special institution for the adjustment of the therapy, where the final diagnosis is set up, based on which therapy is planned and the patient’s treatment is started. After this the patient (may be) is referred back to the dentist working in basic care, who proceeds with the treatment and care of the patient according to the formulated plan of therapy.

\textit{Partial competence} includes (chronic, general) diseases the final diagnosis of which requires institutional background, based on which the therapeutic plan is formulated by the special institution, but the possible long-term treatment and care (may be) is the task of the dentist working in basic care.

4 As to the cases of \textit{minimal competence}: the task of the dentist providing basic care is to establish the guiding diagnosis and to determine the severity of the disease, then he refers the patient to the appropriate medical institution.

The category of minimal competence includes diseases which are seldom encountered.

Due to their rare occurrence the dentist working in basic care cannot usually recognize these esoteric diseases, and he/she does not have the appliances and instruments necessary for the examinations. Means and methods required for the treatment of such diseases are not at his disposal. In order to diagnose and treat diseases belonging to the category of minimal competence, and because of the possibly arising complications, in-patient care is necessary.
18: Other Influences

Person in School who will explain and show this to the visitors:
Name: Dr. Erzsebet Feher, Dr. György Kövesi
e-mail: feher@ana.sote.hu   kovesi@paro.sote.hu

Regional oral health needs

: Our Dental School plays a major role in part of the oral health care of the regional population. This involves screening, preventive and treating activities performed by dental students under supervision.

Evidence based treatments:

We have educated our students to the therapy of oral diseases in evidence based form.

Involvement in other university activities and sport

: Our University has a Faculty of Physical Education and Sport Sciences, where there are many possibilities for sport activities. We have Music Club.

Recreation:

Our University has many recreation activities, e.g. SOTE Club, Sport Centers and so on.

Student selection procedures:

Our Faculty has entrance exam, where only the best candidates are invited to be a student.

Labour Market Perspectives:

There is need for new dentists since the dentist/population ration is still relatively high.

Employment opportunities for our graduates:

Every student after the final exam should participate in a Residents System for two years, which is financed by the government. After it they can work as a dentist. Majority of the graduates in Hungary are employed in private and state owned clinics. Nowadays our diploma is not accepted in most of European countries, the graduated dentists have to take special exams.

Please describe whether any particular time is devoted to involvement in sport or other university activities outside the faculty or school of dentistry.

No particular time is devoted for other university activities outside the school of dentistry.
What efforts are made to ensure students have sufficient time for student reflection

There are many possibilities and enough time for reflexion of the students, e. g. Faculty Committee, Offices of Secretariat, assessment of the curriculum and teachers, and so on. Faculty of Dentistry tries to schedule the classes in a way that the students may have sufficient time for studying and reflection. This is an ongoing process which can be modified on the basis of feedback from the students.

Residents must complete the courses, meet the practical and theoretical requirements, and pass their partial exams successfully in order to take the specialising exam as an ending to the 26-month training programme.

Approximate number of dentists qualifying per year: 80.
19. Student Affairs

Ábrám Emese
Visitors should meet full class together of final year together with the class representatives of earlier years

Name of Student representatives (2 for each class) who will discuss this

Final Year: Tóth Zsuzsanna
    Lőrinch Ádám

Fourth Year: Ábrám Emese
    Hary Réka

Third Year: Molnár Bálint
    Simon Judit

Second Year: Hinora Csaba
    Németh Orsolya
19. 1 Basic Data from Dental Schools

a. **Average number of dental students** qualifying per year: 65-70 Hungarian
   30-40 English speaking
   5-10 German speaking

   **Average number of dental students admitted to the first year:**
   60-65 Hungarian and
   40-50 English and German language students.

c. **Length of course in years and/or semesters:** 5 years/10 semesters
   
   d.) **Is there a separate period of vocational training following graduation as a dentist in your country:** Yes, two years **RESIDENT PROGRAMME** following graduation

   **If yes to d.) above, is that organised by the University / Dental School:** Vocational training is organised by the University

List different auxiliary courses and state number who qualify per year

<table>
<thead>
<tr>
<th>Course</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implantology</td>
<td>20-30 Students</td>
</tr>
<tr>
<td>Gerostomatology</td>
<td>5-10 Students</td>
</tr>
<tr>
<td>Cancer in the Oral Cavity</td>
<td>5-10 Students</td>
</tr>
<tr>
<td>Scientific Methods</td>
<td>5-10 Students</td>
</tr>
</tbody>
</table>
19. 2. Postgraduate (Resident) programme for newly qualified dentists

After completing a five year dental course, the newly graduates have to take part in a Resident Programme which will prepare them for the licensing exam.

The Resident Programme was initiated in 1999 following a ministerial decision. The Residents are mainly employed in the public sector and their salaries are paid by the Ministry of Health (Residents must hold Hungarian citizenship).

The programme consists of a combination of theory and practical work. The theoretical part covers all fields of dentistry including practice management, legal requirements and first aid training.

List of compulsory courses:

• General dentistry:

  Emergency interventions in pedodontics. (e.g. treatment of dental inflammations, traumatic injuries to the teeth)
  Pathogenesis of dental and periodontal inflammations, focal infections.
  Theory and practice of contemporary endodontics.
  Infection control in dentistry.
  Ethiology and treatment of periodontal diseases.
  Surgical interventions in prosthodontics.
  Restoration of partial edentulousness.
  Rehabilitation and treatment of total edentation.
  Ways of screening oral precancerous and cancerous lesions.
  Systemic illnesses influencing dental treatment.

• Course of emergency care.

• Public Health courses:

  Healthcare administration.
  Healthcare economy.
  Healthcare management.
  Legal requirements in healthcare.
Communication skills.

The practical parts take place either at the university clinics or in other clinics accredited by the university. There is a set amount and type of practical work required. The residents are working under the supervision of a tutor and the whole programme is supervised and co-ordinated by mentors appointed by the university. During the programme the Residents must sit exams in each dental subject.

Residents must complete the courses, meet the practical and theoretical requirements, and pass their partial exams successfully in order to take the specialising exam as an ending to the 26-months training programme.

Approximate number qualifying per year: 80.
19.3. List different auxiliary/technology/other courses and state number who qualify per year

Our Faculty has no auxiliary/technology/other courses till now, however agreement exist to introduce these courses in the nearest future.
19.4. Describe briefly student counseling services in the University

Our Faculty has no special student counseling services. The Student Self-Coordinating Committee arranges all of the student affairs.
20. RESEARCH AND PUBLICATIONS

Name of the responsible for it: György Kövesi

Gabor Varga

Host school should set out the publications of all staff according to the sections set out below strictly confined to past 36 month –please exclude abstracts and articles in non-scientific or non-refereed journals (1998-2000).

Number of articles in refereed journals: 178,

Number of textbooks published by staff: 10

Number of chapters in books: 30,

Grants received > 292,000 Euro: no. 20

Number of invited presentation at international meeting (excluding abstracts): 12
Publication activity in the Departments of the Faculty 1998-2000

Department of Conservative Dentistry

Papers in international journals 1998-2000
(impact factors are indicated when available)

Impact factor: 0.400

Impact factor: 3,722


Impact factor: 0.781


Publications in Hungarian 1998-2000

Albrecht M, Tamás Gy, Dinya E: Fogágybetegségek diabetes mellitusban. LAM 1998; 8(9): 6, 18-624

Albrecht M, Dr Maros E. A fogfluorozis prevalenciája és súlyossága Báron és Dunaszekcsőn élő 6-18 év közötti gyermekekben. Budapesti Közegészségügy 2000; XXXII/2: 126-128


Fazekas Á. Gyökércsatorna előkészítése töméshez nikkel-titánium ProFile gépi tágítók segítségével.


Vág J , Fazekas Á. A koronaszél kialakításának hatása a marginális parodontiumra (esetismertetés) Fogorv Szle 2000; 93: 35-44


Csikány Cs , Fazekas Á. A TRI AUTO ZX gyökércsatorna hosszbemérő, illetve tágító műszer használata az endodontiában. Fogorv Szle 2000; 93: 137-143


Pataky L. A panoráma képek felhasználása a vezetékes érzéstelenítés mindennapi gyakorlatában. Fogorvosi Szemle 1998; 91: 137-141

Vág J., Fazekas Á.: A koronaszél kialakításának hatása a marginális parodontiumra (esetismertetés) Fogorv Szle 2000, 93, 35-44.


Department of Oral Surgery and Dentistry

Papers in international journals 1998-2000


Publications in Hungarian 1998-2000

Divinyi T. Fogászati implantológia, II. kiadás: 1998 Springer - Budapest


Németh Zs, Szabó Gy, Kreidler J, Hollmann, K Kovács Á, Németh Gy, Tóth-Bagi Z, Barabás J Preoperativ intraarteriális citosztatikus kezelés és preoperativ sugárterápia eredményességének összehasonlító vizsgálata szájüregi daganatos betegnyagon Magyar Onkológia 1998; 42: 244-248


Szendé B., Suba Zs.: Introduction to histopathology. Medicina, 1998

Szendé B., Suba Zs.: Bevezetés a hisztopatógiába. Egyetemi tankönyv. 2. javított, bővitett kiadás, Medicina, 1998


Szabó Gy, Hrabák K, Gyulai-Gaál Sz. Sinus elevatio tervezése és kontrollja a 3D komputertomográfia segítségével. Fogorvosi Szemle 1999; 92: 41-44


Gyulai-Gaál Sz. Kockázati tényezők, hibák és tévedések a fogászati implantológiában. Dentál Hírek 7: 75-76, 2000

Gyulai-Gaál Sz, Bereczkei Á, Jancsó J Félelem és szorongásmentes kezelés. Egészség 114 (3) 1 2000


Szabó Gy, Gyulai-Gaál Sz, Döri F. Az orvosi implantátumok felületkezeléséről I Általános rész. Dentál Hírek 2000, 2: 22-24

Szücs A, Suba Zs, Martonffy K, Hrabák K, Gyulai-Gaál Sz, Döri F, Szabó Gy A β-Tricalcium foszfát (CERASORB) jelentősége a preprotetikai sebészetben Fogorvosi Szemle 2000; 93: 45-52


**Department of Oral Biology**


Impact factor: 2.360


Impact factor: 2.038


Boros I., Keszler P,Zelles,T. Fluoride intake,distribution and the fluoride levels of bone and teeth in diabetic rats consuming fluoridated drinking water. Fluoride 31, 1-10 1998 Impact factor: 0.469


3: 180-083, 1999

Impact factor: 0.784

Impact factor: 2.047

Impact factor: 1.040

Impact factor: 1.130


Impact factor: 1.130

Impact factor: 1.130

Publications in Hungarian 1998-2000


Boros I.: A fluorid és a keményszövetek In: Zelles T. (szerk.): Orálbiológia I. Semmelweis


Kelentey B., Lenkey B., Póti, S., Ölveti É., Gyulaházi J., Redl P., Zelles T. Cefoxitin (Mefoxen), imipenem (Tienam) és meropenem (Meronem) nyálba történő kiválasztódásának vizsgálata. Fogorvosi Szemle 92., 8-10 1999

Bánóczy J.: A fogorvoképzés alakulása Európában, a harmonizáció kérdései. MOTESZ Magazin 3: 17-20, 2000

Department of Periodontology

Papers in international journals, 1998-2000
Impact factor: 2.058

Impact factor: 0.09

Impact factor: 1.423

Sculean A., Donos N., Chiantella G. C., Windisch P., Reich E., Brex M.
Impact factor: 1.302

Gera I. Periodontal treatment needs in Central and Eastern Europe J. Internat Academy of Periodontol 2000; 2: 20-128

Impact factor: 1.302
Publications in Hungarian 1998-2000


Gera I. Mit árulhat el a szájüreg a diabeteszról. Orvostovábbképző Szemle 1998; 5: 51-60.


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Impact factor: 1.305

Impact factor: 1.040

Impact factor: 5.117
Department of Oral Surgery and Dentistry

Huszár T, Mucsi I, Antus B, Terebessy T, Jeney Cs, Masszi A, Hunyadi L, Mihalik B, Goldberg HJ, Thekkumkara TJ, Rosivall L. Extracellular signal regulated kinase (ERK) and p21Rac-1 are involved in the regulation of gene transcription by angiotensin II. Experimental Nephrology, 2001 9(2):142-9, Impact factor: 1.411


Department of Oral Biology


Impact factor: 1.339

Impact factor: 1.339

Impact factor: 3.115

Impact factor: 4.455

Impact factor: 4.129

Impact factor: 7.715

II. Training Unit – Oral Biology – Pedodontics and Orthodontics:

Impact factor: 1.708

Impact factor: 4.438

Department of Periodontology

Impact factor: 1.418

Impact factor: 1.837

Department of Pedodontics and Orthodontics

Impact factor: 0.948

Budapest – School Visit
Department of Prosthodontics


Impact factor: 0.921
Department of Conservative Dentistry

ETT 454/1996
Dr. Fazekas Árpád (1997-1999) 1.200.000Ft

PFP 5164/97
dr. Fazekas Árpád (1997-1998) 2.000.000Ft

PFP 2568/1998
dr. Fazekas Árpád (1998) 1.000.000 Ft

AMFK 091/98
dr. Fazekas Árpád (1999) 790 000Ft

FKFP B3/1997
dr. Fazekas Árpád (1997-2000) 12.000.000Ft

OTKA T-023601
dr. Fazekas Árpád (1997-2000) 1.600.000Ft

ETT 30/2000
dr. Fazekas Árpád (2000-2002) 3.600.000Ft

Department of Dental Surgery and Dentistry

Dr. Szabó György 2.000.000.- Ft

OTKA T 022167
Dr. Szabó György (1997-2000) 3.200.000Ft

ETT
Dr. Szabó György (1997-1999) 600.000Ft

Hungarian-Itali bilateral collaboration TéT I-31/95.
Dr. Szabó György, Dr. Franco Santoro (1998-1999) 400.000Ft.

Department of Oral Biology

OTKA (T 25111)
Dr. Bánóczy Jolán (1998-2001) 3200.000Ft

OM FKFP
Dr Zelles Tivadar (1999-2002) 2800.000Ft

OTKA T 030863
Dr. Zelles Tivadar (1999-2002) 7600.000Ft

ETT 581/2000
Dr Zelles Tivadar (2000-2002) 2000.000Ft
ETT 292/2000
Dr. Bánóczy Jolán (2000-2002) 1800.000Ft

ETT 310/2000
Dr. Boros Ildikó (2000-2002) 1500.000Ft

ETT 271/2000
Dr. Varga Gábor (2000-2002) 4500.000Ft

Department of Prosthodontics

FEFA 4068
Dr. Fejérdy Pál (1999-2000) 25.600.000Ft.

OTKA T 016400
Dr. Fejérdy Pál (1995-1998.)

TOTAL: 77.390.000FT = 192000 EURO
21. Quality Development or Continuous Improvement Policies/Schemes

Our faculty has a clearly stated quality development policy both on the field of education and patient care.

The continuous quality control of the education of our Faculty is controlled by the state through the accreditation process. In every 8th year the curriculum and the structure of the Faculty should be reviewed by the Hungarian Accrediting Committe. This process took place last time in 2000, and our Faculty gained „Excellent” score.

We also invite foreign visiting committees to evaluate our educational system, and to help us to converge towards the highest international standards. The Faculty is also involved in the work of international organizations of dental educational interest as ADEE and DENTED. We improve continuously our postgradual and continuous educational programmes as well to meet our mission statement. The participation of our senior staff members in local and international meetings, and their leading role in the gradual and postgradual education also yields a continuous improvement of quality in our educational work.

The quality control on field of patient care is achieved applying the internationally accepted ISO 2000 normatives. All of the Clinics are obliged to get ISO certificate, this is in progress. The access to the highest dental care for patients treated by the dental students is nearly free of charge (just a limited part of the technical fee of prosthetic works should be covered by the patients). This situation provides enough patient for students to achieve good clinical skill.
Part II  DRAFT

Visitors Comments
Visitors comments

1.2 Mission Statement
The Mission Statement as defined above is very comprehensive and well presented. It could provide an excellent basis for the development of a Vision for the future of the Dental school that is supported by a consensus of the staff of the Faculty

1.6 Overview of research
The research activity in the Department of Oral Biology provides a good example of collaboration with the other non-clinical Departments. A large number of good quality papers are produced in high impact journals. However, the contribution made by the Clinical Departments is less clear. The development of a Faculty wide overarching Research Strategy that is accepted by all senior staff, together with the provision of a clinical research facility would address this issue

1.7 How we cope with continuous improvement of quality in teaching, research and patient services
Although the current mechanisms appear to work well, the outcome might be improved by developing new strategies as described under several paragraph headings in this report

2.1 Clinical Facilities
The buildings in which the Clinical Facilities are currently housed are of variable quality and it is essential that the new building that has been purchased for the Dental School is developed as soon as possible. The exception is the Oral and Maxillo-Facial facility that is currently under construction. Generally, the dental equipment is a good standard.

2.2 Teaching Facilities
At present most of the teaching is provided in large lecture theatres and there are only a limited number of small rooms available for small group work. The new Dental School will provide an opportunity to address this deficiency which clearly limits progressive curriculum development. As identified under the previous heading, the dental equipment for undergraduate teaching is generally good, but the intention to introduce patient privacy by the provision of individual operatories is strongly supported.

2.3 Teaching Laboratories *
The visitors were not able to visit these facilities in the time available.

2.4 Research Laboratories*
The research facilities in the Department of Oral Biology are generally good although some of the rooms are quite small. There is a need for a dedicated clinical research facility as indicated under a previous heading.

2.5 Libraries
Although the Central Library is internationally recognised and has a very wide selection of material in its extensive collection, there is great competition for the use of its facilities by students. Equally, the clinical libraries provide an excellent but fragmented service. The proposal to centralise in the new Dental School is therefore strongly supported and it is recommended that the facility is
developed using the concept of an Information Centre.

2.6 Computer Networks
The computer network and supporting facilities are most impressive, but the students reported that access to IT was still difficult and that there were not enough PC’s. This problem should be addressed as part of the Information Centre development described in the last section.

3 Organisation and administrative structures
The structure as described and discussed is quite progressive and appears to work well in practice. There is a comprehensive sub committee structure with good student representation and problems are largely identified early and resolved quickly. However, there is no formal student counselling service in the University and although one of the Vice Deans deals with cases as they arise, a structured personal tutor system using senior and junior staff would be most beneficial to student welfare.

4 Staffing
Staffing levels are adequate and there does not seem to be the same recruitment problems as in other parts of Europe. There is a good balance of full and part time faculty and the use of the latter allows students to be introduced early to the philosophy of private practice.

3. General Pathology
This course provides a comprehensive introduction to the principles of pathology, the oral presentation of systemic diseases and the systemic effect of oral diseases. There is small group teaching of microscopic techniques and experience of autopsies. In most cases, the material used is not specially selected for dental students but it is always presented in an oral context. The course is organised in close cooperation with oral pathology.

4.1 Pharmacology and Toxicology
The provision of specific staff to teach this subject to dental students is an example of good practice and the topics selected reflect those required by dental undergraduates. The examples of the clinical use of the drugs used in dental practice and the oral manifestation of their side effects is especially helpful.

5.1.A Medical Chemistry
The medical chemistry course provides a good scientific introduction for new students who are just entering the course. It also provides an important logic base for those who will carry out research later in their careers. The plans to improve the course by placing more emphasis on the biomedical and dentistry related aspects of the course are most welcome and should be introduced as soon as possible.

5.1.B Biochemistry
In recent years the emphasis on biochemistry has increased because of the recognition of the portance of this topic to dental undergraduates. To address this, the course for dental students has been restructured to emphasise matters that are specifically important to dentistry. The content contains a large amount of information. However, communication with the other basic science and applied clinical disciplines is weak which in part explains the significant overlap of course material between disciplines. Also communication with students can be difficult because the programme is delivered to large groups.
5.2, 5.3 Molecular biology and Genetics

The visitors noticed with interest that the same course is taught in these subjects to medical and dental students and would recommend that some examples specific to a dental context are introduced. The departments are commended for providing up to date information on the scientific methodology of both disciplines.

Biophysics

There is no heading for biophysics in the DentEd framework. However the course in biophysics at the Semmelweis University for dental students provides an excellent contribution to undergraduate dental education. The course which includes biostatistics is an example of best practice especially because it introduces students to the principles of evidence based care. Teaching material, available as a textbook in English illustrates the didactic quality of this programme.

5.4 Odontotemnology

The facilities are good including laboratory spaces and phantom heads. The school provides all the supplies the student will need. The students learn the technical side of dentistry including principles of occlusion theories. The course does not seem to have defined course objectives or criteria to evaluate student performance. It is therefore not clear what criteria are used to grade a student (fail or pass) and when a student must repeat a class. Furthermore it is not known if a student must repeat the whole class or if some remedial course work might be sufficient.

6.1,6.3 Anatomy, Histology and Embryology

The visitors were impressed by the comprehensive content of the courses, the special emphasis placed on the structures, tissues and development of the head and neck region and the opportunities for laboratory dissection. The textbook for dental students appears to be especially valuable and the introduction of other books in the basic science disciplines dedicated to dental students should be considered. The number of teaching hours allocated to the three subjects is more than adequate.

6.2 Medical Physiology

The course provides a good introduction to general human physiology. However the course could be improved if it was better coordinated with Oral Biology. This would make it possible to emphasise matters of specific importance to dental education. The size of the student groups is a problem that should be addressed. The proposed modernization of the laboratories would facilitate this. The course directors expressed an interest in an intercalated course which would encourage the best students to have their dental studies suspended allowing them to complete a degree in a basic science subject. This concept should be further explored by the faculty.

6.4 A. Oral Biology

The undergraduate course in Oral Biology is comprehensive and well developed. The department is strong and the laboratory and research facilities are very good although the
space for teaching is limited. The library is new and provides a good basic model on which the proposed Informatics Center in the new Dental School building could be based. There is clearly a close relationship with the clinical departments, which encourages and facilitates joint research. The growing number of publications in peer reviewed journals and the high impact factors demonstrates the value of interdisciplinary research collaboration.

General and Oral Pathophysiology (6.4 B) were reviewed under this heading.

7.2 Microbiology

The course provides an important introduction to the principles of sterilisation. The visitors noted with interest that the discipline did not provide a service for the clinical dental departments.

7.4 Public Health

The course provides a comprehensive introduction to the principles of Public Health and it’s importance to the general community. The benefits of this would be increased considerably if it was coordinated with the other population based disciplines, i.e. behavioural science, sociology etc. and preferably as a block or as a series of linked units. This is discussed further under the appropriate headings including Dental Public Health.

8.1 General Medicine

The course emphasises the importance of history taking and physical examination, which is beneficial to dental students. Its timing in the curriculum is good and the content is planned so that it is directly relevant to dental education. Students are also able to obtain clinical experience in the wards.

8.2 General Surgery

This course correctly focuses on the principles of diagnosis and differential diagnosis which is appropriate for dental students. The students also get further knowledge through visits to the wards and small group participation.

8.3 Dermatology

The value of this course is that it emphasises the oral manifestations and that the teaching is co-ordinated with that of Oral Medicine. The occupational diseases that dentists suffer are also included. This is an example of good educational practice.

8.5 Obstetrics and Family Planning

The purpose of this course is to emphasise the importance of dental care for pregnant women and the oral effects of the diseases that occur during pregnancy. The course is well coordinated with the teaching of Paediatric Dentistry.

8.6 Ophthalmology

The emphasis in this course is on the responsibility of the dentist to recognise ophthalmological pathology. The intention to produce a textbook specifically for dentists is therefore commendable. The visitors noted with interest the different attendance patterns of Hungarian and foreign students.
8.7 Neurology and Psychiatry

This course will encourage dental students to recognise the symptoms of neurological and psychiatric diseases when present in their patients. Dental students are also introduced to the principles of communication skills for the only time in the undergraduate course. The expressed wish to move away from didactic teaching to large groups of students to small group seminars and the preparation of special material for dental students is commendable.

8.8 Otorhinolaryngology

The visitors were pleased that the dental student attendance at this course is high. A wide range of clinical material is covered. It appears that dental students gain good experience in the examination and diagnosis of disease in the ear nose and throat areas. The opportunity to perform intubation is an example of best practice. This training should be coordinated with CPR.

8.9 Paediatrics

The teaching of this subject is closely coordinated with Paediatric Dentistry. The occurrence of oral manifestations of systemic diseases in children is highlighted and is a significant contribution to the educational value of this course.

9.1 Orthodontics *

The Orthodontic course is designed so that dental students can clearly distinguish between the patients that they will be able to treat and those that they should refer to a specialist. This is appropriate for this discipline as undergraduate students can not follow a case to completion because of the time involved. During the clinic visit, the visitors had an opportunity to observe the work of residents and examine the logbooks used to monitor student progress. The use of such logbooks appears to be most valuable.

9.2 Pediatric Dentistry*

Pediatric Dentistry is taught during the end of the 5 years undergraduate course, which is consistent with most Dental Schools. The care delivered during the course provides an important contribution to the treatment of children in Budapest, particularly to District XIII which is a deprived community. The staff are very dedicated. Lectures and clinical care are well integrated. Because of the special services provided by the clinic, new and larger clinical facilities are needed which would allow more privacy to the patients. The visitors were concerned that some young patients are not accompanied by their parents and that issues of consent are therefore not always considered. The staff supported by the Dean should maintain a dialogue with the Hungarian Health Ministry to improve and enhance the resources allocated to preventive dentistry with emphasis on the pediatric patients.
10. Preventive Dentistry

Although more emphasis has been placed on prevention since it became a separate subject in 1994, there is still insufficient time allocated to the discipline. There also appears to be a little consistency or coordination of teaching across the clinical disciplines. This should be addressed in the next curriculum review. The early introduction of students to the subject is most encouraging and should be retained and expanded. The development of Dental Public Health as a discipline that coordinates teaching and research in public dental health, care delivery systems, prevention, behavioral sciences and communication skills should be considered.

11.1, 11.2 Conservative Dentistry and Endodontics

The visitors noted with interest that Conservative Dentistry, Endodontics and Prosthodontics are totally independent even though they are presently located in the same building. The observers also noticed that there is a significant overlap in teaching and clinic practices. For example endodontic procedures as well as other tooth reconstructive procedures are performed in several departments using different clinic principles. This is a significant source of contradiction and will potentially confuse students. The new Dental School will provide an opportunity to address this issue and to include Periodontology.

The visitors also understand that there is no consensus of clinical, teaching protocols and guidelines and recommend that this issue is resolved as soon as possible using an evidence based approach wherever possible.

The recent introduction of a common sterilisation facility is to be commended but more resources are required to purchase additional equipment to allow the system to operate more efficiently. At present handpieces are cold sterilised.

The visitors welcomed the expressed wish to extend the principle of integrated care within the Faculty.

11.3 Prosthodontics*

The visitors noted that the dental units and the overall equipment in this department were of a very high standard. They were also pleased that the students prepare and discuss case reports and it is useful for their future clinical work that they are taught the principles of treatment planning and are required communicate the outcome to colleagues and patients.

The students are also taught all prosthetic procedures including new methods and have access to chair side assistance if needed. This ensures that there is a minimal risk for cross infection.

The course would be improved if the objectives were stated and the minimum treatment requirements to pass a class were made available to students. Examinations should include both didactic and clinical components.

To encourage more patients to accept expensive prosthetic work it might be possible to reduce the costs if the students were to perform some of the laboratory work under the supervision of in house laboratory technicians. This would also provide experience of the standards required from a laboratory.
11.4 Occlusion and function of the masticatory system.

During the pre-clinical part the student learn about occlusion theory and functional aspects of the masticatory system. The course takes place during the 5th semester. It is unclear to the visitors how much students learn about TMJ associated problems including the management of TMJ dysfunctions. For teaching purposes, it might be advisable that students practice clinical diagnosis and procedures such as the production of a bite-guard or occlusal splint on classmates.

13.1 Oral Surgery

Oral surgery is allocated a large amount of curricular clinic time. This may reflect the treatment needs of the Hungarian population. The newly constructed although not yet finished Oral Surgery complex will soon provide excellent facilities for clinic teaching and patient care. There appears to be no shortage of suitable clinical cases for students who obtain broad experience in oral surgical procedures including how to administer pain control, prescription of antibacterial and anti-inflammatory drugs and the principles of prevention of cross infection. To further improve the course, the coordination between the teaching of Oral Surgery and Periodontology should be improved.

13.2 Oral Radiology*

At present, Oral Radiology is taught in several disciplines and clinics. The didactic teaching occurs early in the curriculum at a time when students may not be ready for it. Better coordination of radiology services including Oral Diagnostics is advisable. Furthermore the introduction of new radiology procedures including the use of electronic imaging should be encouraged. Oral radiology is possibly more suitable to computer based and problem based learning than other disciplines. This concept should be further explored.

14.1 Oral Medicine*

Oral Medicine is a clinic course taught during the 9th and 10th semesters and teaching is provided in the Department of Periodontology. The course has a didactic and a clinical component. It appears to the visitors that the space and time allocated to clinical training and practice is very limited. If the diagnosis of intra oral lesions and physical examination is taught to students in this course the placement of oral medicine at the 9th and 10th semesters appears to be too late for the students to develop evidence based diagnostic and treatment planning skills. Interaction with Oral Pathology is encouraged and should be expanded also to Oral Radiology. Furthermore the Oral Medicine faculty should work in close collaboration with medical staff/ experts in medical diagnostics. The visitors noted that the students were very satisfied with the didactic course in Oral Medicine. The clinical significance of Oral Medicine should be considered so that this discipline becomes a department in itself possibly merged with Oral Radiology, and Oral Diagnostics.

11. Periodontology*

Periodontology is taught during the 8th, 9th and 10th semesters. It appears to the visitors that the discipline is not included in integrated care. If this is the case, the matter should be considered in the next revision of the curriculum. The amount of time available in the present curriculum to the
discipline is currently inadequate when compared with other European Dental Schools. Furthermore the design of the clinical facility appears to make it very difficult to provide clinical training.

New discoveries and trends in Periodontology also requires collaboration with oral and General Microbiology, Immunology, and clinical medical disciplines such as Obstetrics and Gynecology, Endocrinology and Cardiology. Predoctoral students should be introduced to minor periodontal surgical procedures as it appears to the visitors that there is a serious under supply of Periodontists in Hungary.

16.2. Communication The visitors were most impressed by the emphasis on medical informatics both in theory and practice. They were also told that the students had good access to computers and the Internet and provided in the students dormitories even sometimes in the students’ rooms. The students seemed less sure of this but if such access to computers is substantiated it as an example of best practice. When resources permit students should be encouraged to obtain the European Computer Driving license. The interpretation of this heading is interesting. Usually in DentEd reports it refers to teaching communication skills for dental undergraduate students. Other than for postgraduates there is no mention of such training for students. If it is not present in the course it should be introduced as soon as possible.

17. Examination, Assessments and Competence

The overall approach to assessments is generally satisfactory. However the visitors have some doubts about the uniformity of application and the use of common standards by different departments. The development, use and statement of teaching and learning objectives would improve the process and move the system closer to that used in other European Universities. The introduction of a credit-based assessment is welcomed as is the intention to have students present finished cases during the final examinations. A wide use of external examiners, perhaps from other Dental Schools in Hungary or other European countries is worth discussion. The objectives of the dental course are clearly stated as are the areas of competence that are required. As the Faculty develops, a general move towards competency assessment is desirable. This would allow the best students to be identified early and perhaps be provided with an opportunity to progress more quickly. Elective programmes might provide a way to for advanced students to gather further knowledge and skills. This may provide an opportunity for international educational student exchange programs to be developed.

19. Student Affairs

At present, it appears that there is not a formal system for student counseling in the Medical University. This means that students, who have personal problems or particular difficulties with a course, have no formal way of expressing their concerns or obtain help. To address this issue the Faculty should consider the introduction of a system of personal tutor system using Faculty staff. Members of the admissions committee may be considered suitable for this task as they have early contact with enrolled students. Special training develop of such staff will be required. The final year students supported this idea. The students that the visitors met were relaxed and happy and generally satisfied with the course and the environment. They supported the visitors view that the course was congested and that
because of this they did not have the opportunity to participate in wider university life. There also seemed to be some confusion about the examination failure rate particularly in the early years when students thought it to be very high. A subsequent review of the outcome did not support this impression.

The students would also welcome the formation of a Students Society to organise social events.

**19.2 Postgraduate (Resident) programme for newly qualified dentists.**

The visitors were most impressed by this programme which they consider to be an example of good practice. They also noted with satisfaction that it was a compulsory part of the education and training in Hungary. The only reservation that they had was that the residents were confined to one department and not rotated around each department during the two years. A change to this system is recommended.

**Innovations and best practices**

- There is an opportunity for students to obtain further experiences by attending training courses during the summer vacations. These courses could be extended particularly during the fourth and fifth years so that undergraduates have the opportunity to develop and maintain their clinical skills.

- The resident programme is both innovative and an example of good practice. It could be further improved by matching and coordinating the supervision of those facilities that are outside the Faculty.

- The introduction of integrated care for undergraduates. It is important that the concept is extended so that students understand the importance of holistic care. A starting point for this process might be the development of a patient admission unit with assigned responsibility to coordinate patient care in a new Dental School building. The unit would include Oral Diagnostics, Radiology and Oral Medicine and would also provide an opportunity to screen new patients for their suitability for student care and refer them to the appropriate clinic.

- The use of student logbooks to monitor the progress of undergraduates and residents is excellent. The current system provides a foundation for a future computer driven data base to monitor student progress.
Executive Summary

The Dental Faculty of the Semmelweis Medical University provides an excellent standard of undergraduate and postgraduate training. The Faculty clearly contributes to the provision of primary dental care in Budapest, is a focus for specialist dental care for Hungary and the recognised national research centre. All of these services are implemented in a number of separate centres and the visitors are both relieved and delighted to know that a single building has been purchased to house most of the Dental Departments. The Oral and Maxillo Facial Surgery facilities that are currently being constructed clearly demonstrate the support of the University and the Ministry of Health for dental education.

The planning that will be required for the new Dental School will provide an unique opportunity to review and revise the undergraduate curriculum and reduce the congestion that is currently present by improving the coordination between the clinical departments. To achieve this improvement, it is essential that a strategy and action plan to implement it is developed as soon as possible so that the allocation of space in the new facility can reflect any changes that are proposed. External facilitation may be required to assist the development of the new strategy.

During the visit, the visitors were told that the Faculty would like to incorporate a dedicated library in the new School. This proposal is strongly supported especially if the concept is developed so that the facility becomes an Information Centre with easy access to the information technology for students and staff.

Following the 1994 visit by a team of European dental academics, the teaching of prevention was introduced into the curriculum. Despite this, there is still an imbalance between the time allocated to prevention, prophylaxis and patient management and the time allocated to treatment that should be addressed as soon as possible. One way to progress this and to improve the coordination of the population and community based subjects would be the introduction of Dental Public Health as a new discipline.
At present, the overall budget for the Faculty appears to be fragmented and there is therefore no guaranteed financial stability. The provision of an experienced fiscal manager would coordinate and improve financial management of the school.

The concepts expressed on the above summary together with a further analysis are set out below under the headings of strengths, weaknesses, innovation and best practice.

**Strengths**

- The Faculty has experienced staff of high quality. All of them are committed to improving the standards of dental education and training through planned, managed change.

- The links to the Dental Chamber and the Government are very strong. This is reflected in the contribution of the Faculty to the oral health of the Hungarian population. Better representation of the Hungarian Dental Association in this process would improve the links with the profession.

- The proportion of the Dental Staff who have a Ph.D. combined with specialty dental training is impressive. This has been achieved through a well planned and transparent staff development programme.

- The teaching of the basic sciences disciplines is very comprehensive. This provides a firm base for the teaching of the medical disciplines to dental students that will be of great benefit to them during their professional careers.

- Most of the dental equipment for the use of staff and students is modern and well maintained.

- The number and mix of patients available for undergraduate training is very adequate.

- Research facilities are good and the number of publications in journals with good impact factors is high.

- The Faculty is involved in the training of Dental Hygienists and is committed to raising the level of educational attainment and recognition of this group of staff.

- The significant role of the staff in mandatory continuing dental education in Hungary contributes to the quality of oral health care.

- The use of part-time staff introduces students early for the philosophy of private practice.
Weaknesses

- The curriculum is very congested and the timetable of some of the basic science subjects could be better coordinated with the clinical teaching.

- There is some imbalance between the theoretical, pre-clinical and clinical medical and dental subjects that should be considered during any curriculum review. Overlap between the subjects should be reduced during the same exercise.

- The number of buildings that house the clinical dental departments reduces the opportunity for good communications and planning.

- The absence of a dedicated Faculty Library and the intense competition for the central library facility.

- There is no teaching of Geriatric Dentistry.

- There is no discipline of Dental Public Health and teaching in that subject.

- Currently, there are no agreed clinical teaching protocols/guidelines to ensure that students receive a common standard of teaching in different Departments.

- There is no overall research strategy or dedicated clinical research facility for the whole of the Dental School.

- Teaching in communication skills is basic. It should be introduced early in the dental course and maintained throughout the course.

- There is too much didactic teaching and insufficient small group work.

Recommendations

There are many recommendations contained in the above summary and supporting paragraphs. However, the visitors would like to draw particular attention to the following points:
• Work on converting the new building into a Dental School that will house all the departments except Oral and Maxillo-Facial Surgery should begin as soon as possible.

• Before the final plans for the new School are agreed, a strategy and action plan for its use should be developed. All of the staff involved in dental teaching should be involved in its preparation.

• A Faculty library/information centre should be included in the new building.

The balance between the theoretical, preclinical, clinical medical and dental subjects should be debated when the curriculum is considered as part of the strategic development. If possible, the current congestion in the curriculum should be reduced but more time should be spend teaching the preventive disciplines.