



THE MEDICAL UNIVERSITY of LODZ

School of Dentistry



DentEd Visit

10 - 14 June 2000

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Information for Dented Visitors**Medical University of LODZ**

Address: 4 Al. Kosciuszki av.
90-419 LODZ, Poland

School of Medicine**Division of Dentistry****Institute of Dentistry - Dental School**

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Professor of Medical Sciences

Contact Person: Prof. Magdalena Wochna-Sobanska, DDS, PhD
Professor of Medical Sciences

Director of the Institute of Dentistry: Prof. Stanislaw Suliborski, DDS, PhD
Professor of Dental Sciences

Secretary: Anna Wisniewska, MA:
e-mail: annawi@psk2.am.lodz.pl

Dates for Visit: 10-14 June, 2000

Visitors:

1. Chairperson	Prof. David Coleman	Dublin	dcoleman@ental.tcd.ie
2. Rapporteur	Dr. Alies Zijlstra	ACTA	a.zijlstra@acta.nl
3.	Dr Edvitar Leibur	Tartu, Estonia	edvitar@cut.ee - stomatol@ut.ee
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5.	Prof. Derry Shanley	Dublin	dshanley@ental.tcd.ie

Provisional timetable for the Dented Visit to the Medical University of LODZ

Saturday June 10th

15.00 Lunch at the Institute & identification of any specific issues or sensitivities
 16.00-18:30 Short tour of the city
 18:30 – 19:30 Meeting of Visitors to review findings
 19.30 Meeting with the senior administrative officers
 20.00 Dinner with the Rector (NB) and some of the staff members
 The Visitors will be staying at the small hotel at the Institute of Dentistry

Sunday June 11th

8.00 Working Breakfast at the Institute
 9.00 Meeting at the Institute of Dentistry with the contact person, director, secretary to establish work plan
 10.00 Meeting with some of the staff of the School

11.00 Tour of the School (Pomorska Street)
 12:30 Meeting of Visitors to review programme and agree matters for clarification
 13.00 Lunch with the senior staff at the Institute of Dentistry
 Presentation of DentEd and DentEd visitors
 a. Restorative and Periodontology
 b. Paediatric Dentistry and Orthodontics
 c. Oral & MaxFac Surgery
 d. Oral Pathology & Oral Medicine
 e. Human diseases – General Medicine, General Surgery & General Path

17.00 -18.30 Research and publication Section 20
 19.00 Dinner with the senior staff members

Monday June 12th

8.00 Working Breakfast at the Institute of Dentistry
 9.00 - 10:00 Biological Sciences (sections 5 & 6)
 10:00 – 10:15 Break
 10:30 – 12:00 Oral Surgery, Oral Medicine, Oral Pathology (observe students working)
 12:30– 13:00 Neurology and oromandibular Dysfunction
 13.00-14.00 Lunch with the non-senior staff
 14:00 - 15:30 Orthodontics, Paediatric Dentistry (to observe students working)
 16:00 – 17:00 Meeting with students
 20.00 Dinner at the Institute of Dentistry

Tuesday June 13th

8.00 Working Breakfast at the Institute
 9-11:00 Restorative Dentistry & Periodontology
 11:00 – 12:00 Emergencies & integrated patient care,
 12:00 – 13:00 Working Lunch
 13:00 – 13:30 Visit Library
 13.30 – 14:30 Anatomy and Physiology (the Anatomicum),
 14:30 – 15:30 Human Diseases (the Barlicki Hospital),
 16:00 Early evening to allow visitors break to see Lodz and have informal dinner later with colleagues from Lodz who will be guests of the Visitors
 22:00 Meeting of Visitors to tie up loose ends

Wednesday June 14th

8.00 Working Breakfast

09:00 -11:00 Completion of Report

11:00 – 11:30 Meeting with the director and the contact person to review preliminary findings

10:00 – 11:30 Complete Report

11:30-12:30 Present findings and discussions with faculty

12.30-Lunch

13:00- Departure of Visitors

Section 1: General Introduction

After the war in 1945 in a newly set up University three faculties were established: medical, pharmaceutical and stomatological. In 1949 the Medical University of LODZ became a separate institution with a Sub-Faculty of Dentistry. The departments of this Sub-Faculty formed in 1971 the Institute of Dentistry. The Dental Course lasts 5 years, with each divided into 2 terms (semesters). The 1st term lasts from October till mid-January, and the 2nd term from February till June.

The teaching curriculum at the Division of Dentistry includes 41 basic theoretical and medical subjects which are taught in different chairs, departments and clinical hospitals of the School of Medicine and 7 dental subjects which are trained at the Institute of Dentistry.

The primary functions and responsibilities of the School include:

1. Undergraduate training of dental students
2. Vocational training for undergraduates in summer
3. Postgraduate one-year clerkship
3. Postgraduate training for dentists wishing to specialise
4. Continuing education of dentists - in co-operation with the Polish Dental Association
5. Provision of basic oral health services under the public insurance system
6. Provision of specialist services
7. Research, including research opportunities for students
8. Training in Prophylaxis for 6th year medical students and 3rd year nursing students

Preliminary Visitors' Comments

The Visitors wish to express their appreciation to the Dean, Director, Faculty and all concerned for the warm and open reception given to those who had the good fortune to be on the team of visitors on this fascinating and very informative DentEd visit to Lodz. It was immediately apparent that the faculty and students in this university are justifiably proud of what they have achieved in such a short period of time. Considerable thought and ingenuity has been given to establishing a dental/stomatological institute of international significance of which they can be justifiably proud. They have won resources to provide a stable infrastructure on which to make significant progress. It was the Visitors view that because of the open attitudes that we should concentrate on those areas in which further progress might be achieved without the need to refer constantly to those accolades this faculty is due. This school is in many aspects at least as advanced as sister institutions in the European Union and in advance of many. However, as in all dental schools there is room for improvement and in also there are some essential concerns which, in the visitors' opinion merit serious consideration. These are referred to in the Executive Summary at the end of this Report and our comments in respect of individual areas with the curriculum are included at the end of each section.

The Visitors were strongly of the view that it was essential for the Dental Institute to formulate an integrated set of educational aims and objectives for the undergraduate curriculum rather than list a series of topics or lectures under separate departments. There may be merit in looking at some of the other DentEd reports which can be found on the DentEd web site at <http://www.dented.org/databases> (see section on updated reports of school visits). As the visitors' comments in this report under each section will show, we consider there is much need for curriculum reform and also to focus on outcome and student competence in the field of clinical dentistry. The personal challenge to faculty will be to maintain academic status in the international university community through scholarship and publication in peer reviewed journals of international standing in the face of competing attractions in private practice.

The Visitors would also suggest that in excess of 5,000 hours is regarded as the norm for EU dental curricula and the extension of the Lodz curriculum should be towards clinical experience and achieving identifiable clinical competences for all students in a measured fashion.

Section 2: Physical Facilities

The person in the School who will explain and show this to the Visitors: **Prof. Stanislaw Suliborski, Director**

Strengths

For 5 years the Institute of Dentistry has been housed in a modern and very well equipped building at the Clinical and Teaching Centre of the Medical University of LODZ.

The Main Medical Library with libraries of the institutes, departments and chairs constitute the library system of the Medical University. The Library has had its own, modern building (usable floor space is 4271m²) since 1977. The Library comprises 190 000 books, 53000 journals, CD-ROM data bases are available. The students have the possibility of watching EuroTrans-Med scientific - transmitted conferences.

Weaknesses:

- lack of computer system for patients' records
- lack of computer stations for students at the Institute of Dentistry
- lack of access to the Internet for the students at the Institute of Dentistry
- lack of software teaching programs and programs assessing progress in student's knowledge

Planned developments:

- The use of computers on a wider scale in the didactic process
- Access to Internet for every student

Clinic Places for Students

Number of dental chairs for Conservative Dentistry: 19

Number and place of dental chairs for Prosthetic dentistry: 19

Number and place of dental chairs for Oral and Maxillo-Facial Surgery: 5

Number and place of dental chairs for Orthodontics: 10

Number and place of dental chairs for Paediatric Dentistry: 12

Number and place of dental chairs for Diagnosis and Integrated Care: 5

Number of Chairs for Periodontology: 16

Total number of Dental Chairs available for students: 86

Number of manikin head places for students:

Lecture Rooms

3 x lecture rooms, each capable of accommodating 100 students.

Visitors Comments

Clinical facilities:

The clinical facilities in Lodz were exceptionally good by any standards. Here the Institute of Dentistry (16,000 M²) was housed in an enormous single building designed 25 years ago to house the entire Medical Faculty. This includes a university hospital with accommodation for 12,000 beds; essentially a small town devoted to the health sciences. The other disciplines apart from dentistry have yet to move into that part of the complex that is waiting to be completed.

Considerable recognition is due to the leadership of the Dental Institute for the planning that has gone into this facility. Each clinic has been designed with considerable care and foresight. The cleanliness of the clinics in Lodz could hardly be surpassed. In addition to lavish clinical and office facilities there was a small residence facility in which the visitors were housed in considerable comfort.

Simulation Laboratories:

It has been decided by the authorities in the Dental Institute to put a considerable investment of equipment, space and curricular time into simulation laboratories. The Visitors were full of admiration for the dedication and planning which had been put into this area. The Faculty in Lodz is of the view that this constitutes one of their main strengths, although some visitors thought there might be too great an emphasis on simulation compared to real patient care. We feel that it is essential that priority be given to the acquisition of skills necessary for patient management and care. This is not a criticism of the organization of this area; it is very well organized due to a very dedicated staff member in the area.

General Hospital Conditions:

The facilities in the general hospital for maxillo-facial surgery were in stark contrast to those of the Stomatological Institute. Despite the best efforts of a truly dedicated staff the conditions need to be improved. The planned move to the enormous health care centre, which has been under construction for the past 25 years, offers some hope of resolving the unacceptable level of patient crowding. On the other hand the Visitors had concerns about the reality of timing in respect of a building under construction for the past twenty-five year period and the availability of major funds for re-equipping in a complex economic situation in Poland moving away from centralized controls and central funding.

Library:

There is a significant and urgent need for modern library facilities in the Dental Institute with modern information technology services. Students do not appear to have adequate training in the use of modern and centralized library facilities. This must be considered a serious deficiency in the Dental Institute.

A "dental library" might be located in the guest residence area {"hotel area"} area and the Visitors feel despite the comfort and unique facilities the space might be put to better use for the students if a library were to replace these facilities. This must not be considered a criticism of an excellent facility for visitors. Indeed we saw it as an innovation and if another site can be found in the lavish space available so much the better. Presumably when the medical school is moved there will be a common library facility for all in the health sciences. Nevertheless the speed of knowledge transfer might be far too great for the pace of opening this colossus of a health sciences center of over 4,000,000.

Information Technology/Services:

The Visitors recommend that a group be charged with responsibility for putting together a strategy for exploitation of information technology both from a teaching and management approach. Otherwise the fragmentation of approach might further enshrined. The team had a few preliminary thoughts although these would need consideration within the context of an overall agreed strategic policy.

The size of the faculty in conjunction with its location in a hospital environment undoubtedly provides a large number of patients with a wide variety of clinical conditions. Many of these would of special interest to dentists. Documentation and presentation of these cases would be of great educational value and could provide a major contribution to international academic networks and databases. A relatively minor investment from the faculty would enable staff members to document undergoing treatments, producing a collection of clinical multimedia material. This material could be used for dental education in all levels and could form the basis of distance learning courses used throughout Europe.

The Lodz Medical Academy maintains a web site, which provides general text information on the University and its departments in the Polish language. However, the University library has a more active Internet presence with a web site in 5 languages that among other services offers access to databases. Although the databases currently available seem to host only publications from Poland, the service provided is of high quality and should be encouraged to expand.

The participation of the Dental Institute in the existing Internet structures is limited. However, since the structures and technology seem to be already available, the faculty of the Dental Institute should be encouraged to undertake an active part in the development and administration of the web site. An English language version of the site should also be encouraged, allowing the staff members to present their work and achievements to a worldwide audience. In the long term, this could be extremely beneficial for all activities within the faculty and especially for research.

Seminar Rooms:

In a facility of this size there is no preparation for adequately proportioned seminar rooms of a small size. If the Faculty is interested in moving towards a problem-based learning curriculum then serious thought should be given to the provision of 10 seminar rooms accommodating 8 - 10 people only in which PBL sessions might take place. Of course such a facility could be doubled in size and use more efficiently in conjunction with Medicine, Pharmacology or Nursing

Research Laboratories:

There are no specifically equipped research laboratories in the Dental Institute. The Visitors consider that this is a major deficiency, which should be rectified as a matter of priority [see Visitors' comments below under Section 20: Research]

Section 3 : Organisational and Administrative Structures

The Medical University of LODZ

Address: 90-419 LODZ, 4 Kosciuszki Av

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Senior administrative officers

Rector : Prof. Henryk Stepień

Vice -Rectors :

Prof. Tadeusz Robak

Prof. Ryszard Dabrowski

Prof. Dariusz Brykalski

Faculties :

Faculty of Medicine

Faculty of Pharmacy

The Medical Faculty with the Division of Dentistry, Public Health, Nursing

Address : 90-419 LODZ, 4 Kosciuszki Av

Fax : (0 48- 42) 632-23-47

Dean: Prof. Andrzej Joss

Vice - Deans: Prof. Wielisław Papierz

Prof. Kazimierz Jedrzejewski

Prof. Jerzy Stanczyk

Prof. Magdalena Wochna - Sobanska

The Faculty of Medicine is the largest faculty of The Medical University of LODZ. Apart from teaching, research and therapy it provides the inspiration to establish new medical institutions and new courses (The Division of Public Health established in 1994, the Division of Nursing established in 1997, the Division of Continuing Post-Graduate Medical Education). Between 1969 and 1975 a total of 12 institutes were established at the Faculty of Medicine, the Division of Dentistry formed the Institute of Dentistry in 1971.

System of education

Six - year medical curriculum leading to a diploma of medicine

Five - year curriculum in dentistry leading to a diploma of dentist

Four-five - 5 year curriculum in public health leading to a master's degree

Four - year curriculum in nursing leading to a master's degree

Student numbers (1999/ 2000)

full time - 1875

part time - 245

On average 80 students qualify per year

The Division of Dentistry

full time - 408

part time - 78

Visitors Comments

The visitors noticed a strong and positive relationship between the Medical and Stomatological disciplines in the University. Indeed it was unusual to find that the conditions in which the dental clinical facilities were housed were so much more modern and better equipped than those which housed the medical disciplines. Nevertheless, the academic organisational structures were such that the Stomatological Institute had insufficient influence on the content and detail of the medical courses with the result that the curriculum for stomatology for dental students was very fragmented. It essentially consisted of a series of separate courses without integration, much overlap and excessive and irrelevant detail taught at the expense of students learning the basic skills of clinical dentistry. The Visitors were not able to judge the academic standing of the dental institute in the eyes of the university authorities in the relatively short time available to meet university decision-makers.

However in the non-academic aspects, the Dental Institute functioned as an independent unit run by a very efficient and business-like Director. Funding from Germany has helped to equip and furnish the dental school in a most satisfactory fashion. Clearly in this respect the Dental Institute had a considerable advantage .

One possibility discussed was that a separate "Dental Faculty" should be established within the University on a par with Medicine and independent from it. This would have considerable benefits in independent decision-making in curricular development. However the Dental Institute may not be sufficiently strong in its own research activities and early separation could lead to the elimination of the peer influence of the biological and medical departments on research quality. It is essential for the Dental Institute to play a strong role in the scholarship of the University. At this time that would seem to be an area on which this Institute must concentrate.

Section 4. Staffing**Staff numbers :**

Professors	159	
Associate professors		366
Other academic staff	278	

Institute of Dentistry :

Professors	10
Associate Professors	36
Other academic staff	46
Nursing Staff	45
Dental Technicians	13

Director: Prof. Stanislaw Suliborski

Vice Director: Dr Ewa Balczewska

Administrative Director: Elzbieta Krawczyk M.Sc

Departments:

-Clinic of Maxillofacial and Dental Surgery
-Department of Oral Mucosal and Periodontal Diseases

Slomkowska

-Department of Prosthodontics

Sobanska

-Department of Conservative Dentistry

-Department of Pre-Clinical Dentistry and Dental Diagnosis

-Department of Neurology and Oromandibular Dysfunction

Heads :

Prof. Halina Plewinska

Dr Barbara Urbaniak

Prof. Grazyna Smiech-

Prof. Maciej Romanowicz

Prof. Magdalena Wochna-

Prof. Danuta Piatowska

Prof. Stanislaw Suliborski

Prof. Wojciech Split

Visitors Comments

In respect of staffing the most serious matter would appear to be the demands on staff time to the detriment of academic activities. This especially relates to the amount of staff time devoted to private practice at the expense of career advancement through scholarship and research of a high quality. Salary levels are likely to rise slowly while the attraction of high-income levels from private practice would seem to offer income levels that are competitive with EU countries. This is a dilemma for academics that on the one hand must be attracted with high-income potential and competing interests in running successful practices. At the same time they are being asked to sacrifice such opportunities for the more nebulous futures offered in a salaried position combined with the demands of research, teaching and tutoring/mentoring undergraduate and postgraduate students.

The visitors believe that the attraction of high salaries will prove to be a major barrier to the implementation of scholarly activities in the University and are keenly aware that the University simply cannot hope to offer salaries that would be financially competitive with private practice earnings. This will require personal sacrifice and balanced progression with strong leadership exemplifying the way forward for Lodz with the assistance of the University.

THE CURRICULUM

Subject: HUMAN ANATOMY**Year of studies: I****Lectures: 60 class hours****Practical classes: 140 class hours**

Topics of both lectures and practical classes are synchronized, especially according to head and neck anatomy (clinical and functional aspects).

The 1st semester:

Lower and upper limb: 8 practical classes

Thorax: 8 practical classes

Abdomen and pelvis: 14 practical classes

Repetitoria and consultations

2nd term exam after the 1st semester

The 2nd semester

Head and neck: 20 practical classes

Brain and spinal cord: 10 practical classes

Repetitoria and consultations

Extra term exam after the 1st and the 2nd semester (the 1st and the 2nd term)

Probable board exam

Method of credit: The exam consists of two parts: the practical part and the theoretical part. The first part is the oral one and it is carried by adjuncts. The second part is the written one (It is not the test. The written exam consists of questions (usually 20 questions) formulated in the way to make the answers as short and unequivocal as possible). At least two colloquiums during the semester are carried in that way, to make students feel more comfortable with the technical side of the written exam. Detailed learning program can be found in Prosectoral Sessions Book, which is available for every student.

Visitors' Comments

Anatomy is taught during the first year by medically trained staff. The course is specific for dental students. Among the positive features noted were:

- *The preparation and use of anatomical models.*
- *The students personal involvement in dissection and the experienced staff involved in the course merits particular mention.*

Enough attention (one semester) has been paid to the anatomy of the head and neck.

Nevertheless we would draw the attention of the reader to the comments at the end of the next section.

Subject: BIOLOGY WITH GENETICS AND ECOLOGY**Year of studies: I****Lectures: 15 hours****Exercises: 55 hours*****Topics of lectures***

1. Biosphere as the environment of contemporary human, including technosphere and sociosphere.
2. Abiotal and biotal factors of aerosphere, litosphere and hydrosphere in etiopathogenesis of human diseases and developmental defects.
3. Environmental pollution, and general health condition of the population in Lodz.
4. Growth of population in various environmental conditions; biocenotal interactions.
5. Regulation systems, the human as an ultrastable system of regulation; homeostasis.
6. Heredity of phenotypic traits in and out of agreement with classic genetics principles.
7. Dominant and recessive monogenic traits; selected syndromes such as metabolic diseases, hemoglobinopathies, Apert and Treacher-Collins syndromes.
8. Heredity of selected blood groups in human (multiple alleles, autosomal linkage, sex-linkage, codomination, hierarchy dominance, interaction of genes).
9. Sex determination in human; hereditary of sex-linked traits, e.g. hemophilia, color blindness, phosphatase - deficiency rickets.
10. Genomic mutations in humans: euploidy, aneuploidy, variation in the number and structure of chromosomes.
11. Chromosomal aberrations in humans: deletion, translocation, inversion, duplication, isochromosome; examples of syndromes, e.g. Prader and Willie, Wolf-Hirschorn syndromes.
12. Polygenic qualitative and quantitative traits, heritability, correlation between relatives.
13. Genetic basis of transplantation.
14. Population genetics: Hardy-Weinberg equilibrium.
15. Limitations of Hardy-Weinberg equilibrium (mutation, selection, genetic drift, migration).

Topics of exercises

1. Aerosphere: dust, gaseous and biological contaminations, and their influence on mammals.
2. Hydrosphere: classess of water purity methods of pollution identification.
3. Litosphere - analysis of sanitary condition of the soil.
4. Abiotal environmental factors - the influence of physical and chemical factors on the vital functions of organisms, including teratogenic effect.
5. Biotal environmental factors: the substrates isolated from plants and animals in etiopathogenesis of human diseases and as the pharmaceutical raw materials.
6. Biocenotal antagonistic and protectionistic environmental interactions; the models of population growth.
7. Stable and unstable regulation systems; homeostasis in humans.
8. Hereditary of selected qualitative traits in human - metabolic diseases, hemoglobinopathies, pedigree analysis.
9. Synergetic action of genes in case of qualitative traits; determination of A and B substances in saliva, D antigen in red blood cells, heteroagglutination of human erythrocytes.
10. Sex as a genetic trait - sex determination mechanisms, Bridge's index, sex chromatine, sex - linked traits.
11. Chromosomes of Drosophila, Mus sp. and Homo sapiens; aneuploidy of sex - chromosomes, examples of syndromes.
12. Aneuploidy of autosomes, examples of syndromes. Heteroploidy in cancer cells, mutations of genes.

13. Polygenic quantitative traits in human population.
14. Intelligence as a polygenic trait; selection of the quantitative trait in population.
15. Genetic basis of transplantation - HLA complex, Snell laws.
16. Hardy-Weinberg equilibrium; analysis of genes and phenotypes frequency in population; shifts of the genetic balance in population.

Method of credit: a written exam.

Visitors Comments

There is a serious over-loading of the curriculum in the medical and science subjects, in both content and detail. Courses in the natural sciences are very intensive and in-depth, with considerable theoretical detail and extensive practical exercises. The Visitors were of the opinion that these courses should be rationalized by concentrating on topics of particular relevance to dentistry, by removing excessive detail and by integrating. The practical sections should be reduced significantly. The Visitors got the impression that many courses that essentially had been designed for future medical practitioners were being taken by dental students. This is understandable and far more convenient for teachers because it obviates the need and inconvenience to address the specific needs of dental or stomatological students. This comment will recur throughout this report. In the time available for a visit it would not be possible to detail those areas which could be eliminated or reduced. That is a matter for the faculty in the Dental Institute to debate and agree with their medical and science colleagues who teach their stomatology students. It is an issue that needs to be addressed and resolved if the dental curriculum in Lodz is to be given an overall direction with agreed educational aims, objectives, outcomes and stated competences that students must achieve.

5.1 Subject: BIOPHYSICS

Year of studies: I

Lectures: 15 hours

Exercises: 45 hours

Topics of lectures

1. Thermodynamics of biological systems
 - thermodynamical systems, thermodynamical functions and three laws of thermodynamics;
 - opened systems, steady state and equilibrium;
 - nonequilibrium thermodynamics, transport of substances, coupling of processes and fluxes;
2. Thermodynamics of living organisms, elements of theory of information
 - 2nd law of thermodynamics in living organisms; flow of entropy;
 - entropy and settlement;
 - information and entropy, flow of information, feedback;
 - kinetics of biochemical reactions;
 - mathematical modeling of platelet release reaction as an example of kinetic studies on feedback processes.
3. Biophysics of the cell – macromolecules
 - proteins, structures and functions;
 - nucleic acids, structures and functions;
 - lipids, structure and functions;

- polysaccharides;
- relationships and interactions between macromolecules;
- lipid monomolecular layer – processes of condensation;
- methods for production of lipid membranes in the form of bilayer;
- methods for lipid membrane thickness estimation;
- liposomes, production and applications;

4. Biophysics of the cell – cell membranes

- cell membrane properties;
- cell membrane systems for substrate transport;
- experimental methods for study of substrate transport across the cell membrane;
- example of study of amino acid transport to the cell, mathematical modeling of transport process;

5. Biophysics of the cell – intracellular signaling

- intracellular signaling, the role of G-protein, calcium ions and phosphorylation;
- electrical potential of diffusion;
- Donnan's equilibrium, membrane potential, functional potential and activation;
- osmotic pressure;

6. Biophysics of blood circulation

- physics laws controlling blood circulation;
- blood as nonnewton fluid;
- laminar and turbulent flow;
- wave of pulsation;
- work and power of heart;

7. Effects of electromagnetic fields on living organisms

- theory of solid body;
- dielectrics and polarization;
- magnetic properties of matter;
- effects of EM fields on the cells and organisms;

8. Elements of mechanics and energy of movement

- the bases of mechanics of material points and solid bodies, simple machines;
- skeletal muscle tissue and cells;
- ions homeostasis and mobilization in skeletal muscle cell;
- mechanism of muscle contraction;
- methods for study of calcium ions mobilization in a single cell and in tissues;

9. Elements of bioelectrochemistry

- electrical electrode and diffusive potentials;
- voltaic cell dependent on ion concentration;
- electrokinetic processes in fluids
- metals in contact with body fluids;
- mathematical modeling of voltaic cell functioning.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors Comments

There is a serious over-loading of the curriculum in the medical and science subjects, in both content and detail. Courses in the natural sciences are very intensive and in-depth, with considerable theoretical detail and extensive practical exercises. The Visitors were of the opinion that these courses should be rationalized by concentrating on topics of particular relevance to dentistry, by removing excessive detail and by integrating. The practical sections should be reduced significantly. The Visitors got the impression that many courses that essentially had been designed for future medical practitioners were being taken by dental students. This is understandable and far more convenient for teachers because it obviates the need and inconvenience to address the specific needs of dental or stomatological students. This comment will recur throughout this report. In the time available for a visit it would not be possible to detail those areas which could be eliminated or reduced. That is a matter for the faculty in the Dental Institute to debate and agree with their medical and science colleagues who teach their stomatology students. It is an issue that needs to be addressed and resolved if the dental curriculum in Lodz is to be given an overall direction with agreed educational aims, objectives, outcomes and stated competences that students must achieve

5.2 Subject: BIOORGANIC CHEMISTRY

Year of studies: I

Lectures: 20 hours

Exercises: 50 hours *Topics of lectures*

Chemical kinetics and catalysis. Reaction rate and its dependence upon temperature and substrate concentration. The collision theory of reaction rates, energy of activation, activated complex. Catalysis, homogeneous and heterogeneous catalysis. Equilibrium in chemical systems. The general form of the equilibrium constant expression. Le Chatelier's principle. Prediction of the direction of reaction, prediction of the extent of reaction.

Water solutions. Part 1. Electrolytic dissociation. Degree of ionisation and ionisation constant. The Ostwald's dilution law. Strong and weak electrolytes. Activity and activity coefficient, ionic strength. Solubility, factors influencing solubility. Solubility equilibria, solubility constant. Common ion effect. Properties of acidic and basic water solutions, the hydrogen ion exponent (pH). Concept of K_w . Strong and weak acids and bases. Ionisation constants (K_a and K_b). Bronsted-Lowry concept of acids and bases.

Water solutions. Part 2. Buffer solutions - the mechanism of action. Dependence of buffer pH upon concentration of the components. Buffer capacity. Neutralisation curves, the characteristic points of neutralization curves. Osmosis, osmotic pressure.

Organic chemistry. Hybridisation of carbon atoms. Structure and chemical properties of alkanes, alkenes and alkynes. Isomerism, isomers: constitutional, conformational, geometric cis-trans. Conformation and configuration. Aromatic compounds, the resonance model for benzene. Polimers.

Lipids. The structure and chemical properties of alcohols, phenols, thiols. Carboxylic acids and their derivatives. Acyl halides, acyl anhydrides, esters, thioesters, amides. Fats and oils. Phospholipids: structure, polarity, biological function.

Carbohydrates. Part 1. Aldehydes and ketones, keto-enol tautomerism. Nucleophilic addition to carbonyl groups: addition of water, alcohols, amines. Oxidation and reduction of carbonyl compounds. Aldol condensation. Monosaccharides. Chirality in monosaccharides. Fisher projection formulas, D, L - sugars. Cyclic structures of monosaccharides. Mutarotation.

Carbohydrates. Part 2. Derivatives of monosaccharides: oxidation and reduction products of monosaccharides, deoxy sugars, amino sugars, ascorbic acid. Formation of glucosides. Disaccharides and polysaccharides: maltose, isomaltose, lactose, sucrose, starch and glycogen, cellulose. Mucopolisaccharides - hialuronic acid.

Amino acids, peptides, proteins. Amines - structure and chemical properties. Naturally occurring amino acids. The acid-base properties of amino acids. Ionic forms of amino acids in water solutions. Isoelectric point (pI). Peptides, geometry of peptide bond. Naturally occurring oligopeptides. Proteins. The primary and secondary structures of proteins. Tertiary and quaternary structures of proteins. Stabilisation of protein structure: hydrogen bonds, ionic bonds, disulfide bonds. Van der Waals interactions. Protein domains. Precipitation and denaturation of proteins. The structure of collagen.

Nucleic acids. Components of nucleic acids: pyrimidines, purines, nucleosides, nucleotides. The primary and secondary structures of nucleic acids. Stabilisation of double helix of DNA (hydrogen bonds, ionic and stacking interactions). Thermal and alkaline denaturation of nucleic acids. Structure and function of DNA, rRNA, tRNA, mRNA, snRNA.

Topics of exercises

Qualitative inorganic analysis. Part 1. Identification of cations: Ag^+ , Hg_2^{2+} , Pb^{2+} , Cu^{2+} , Hg^{2+} , Zn^{2+} , Mn^{2+} , Fe^{3+} , Ca^{2+} , Ba^{2+} , Mg^{2+} , NH_4^+ , Na^+ , K^+ .

Qualitative inorganic analysis. Part 2. Identification of anions: Cl^- , Br^- , I^- , SCN^- , CH_3COO^- , CO_3^{2-} , $(\text{COO})_2^{2-}$, NO_3^- , SO_4^{2-} .

Qualitative inorganic analysis. Part 3. Identification of salts.

Quantative inorganic analysis. Acidimetry and alkalimetry. Preparation of 0.1 M hydrochloric acid and standardisation. Determination of NaOH, determination of CH_3COOH .

Quantative inorganic analysis. Miscellaneous volumetric determinations. Determination of oxalates, determination of potassium dichromate, determination of sodium chloride.

Colorimetric analysis. Determination of iron by thiocyanate method.

Buffer solutions. Determination of pH. Potentiometric titrations. Determination of pK_a of weak acids. Determination of isoelectric point for glycine. Preparation of buffer solutions.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors Comments

There is a serious over-loading of the curriculum in the medical and science subjects, in both content and detail. This applies particularly to this course which in itself is probably excellent. Courses in the natural sciences are very intensive and in-depth, with considerable theoretical detail and extensive practical exercises. The Visitors were of the opinion that these courses should be rationalized by concentrating on topics of particular relevance to dentistry, by removing excessive detail and by integrating. The practical sections should be reduced significantly. The Visitors got the impression that many courses that essentially had been designed for future medical practitioners were being taken by dental students. This is understandable and far more convenient for teachers because it obviates the need and inconvenience to address the specific needs of dental or stomatological students. This comment will recur throughout this report. In the time available for a visit it would not be possible to detail those areas which could be eliminated or reduced. That is a matter for the

faculty in the Dental Institute to debate and agree with their medical and science colleagues who teach their stomatology students. It is an issue that needs to be addressed and resolved if the dental curriculum in Lodz is to be given an overall direction with agreed educational aims, objectives, outcomes and stated competences that students must achieve

MANUAL EXERCISES

Year of studies: I

Pre-clinical simulation exercises: 47 hours

Topic of exercises

1. General information on dentistry. Dental office.
2. Anatomy of deciduous and primary teeth - basic ideas.
3. Prevention against saliva contamination.
4. Dental instrumentarium.
5. Dental instrumentarium for preparation of prosthodontic appliances.
6. Dental instrumentarium - surgical instruments.
7. Basis of aseptics and sterilisation in dentistry.
8. Histological structure of dental tissues - general information .
9. Detailed anatomy of maxillary incisors and canines.
10. Detailed anatomy of maxillary premolars and molars.
11. Detailed anatomy of mandibular incisors and canines.
12. Detailed anatomy of mandibular premolars and molars.
13. Oral hygiene.
14. Assessment of the student.

Method of credit: teacher's approval and signature in the students. registration book.

Visitors Comments

The visitors did not have an opportunity to observe this course in operation

Subject: WAXING - UP METHOD BY ADDITION OF WAX DOTS

Year of studies: I

Pre-clinical simulation exercises: 20 hours

Topics of exercises

1. Detailed analysis of occlusal surface structure of the upper and lower lateral teeth and analysis of three dimensional position of reciprocal occlusal contacts.
2. Technique of waxing-up by addition of wax drops. Waxing-up cusp tips of the lateral teeth in a proper three dimensional position in occlusion.
3. Technique of waxing-up by addition of wax drops. Waxing-up cusp ridges of the lateral teeth in a proper position in occlusion.
4. Technique of waxing-up by addition of wax drops. Waxing-up proximal parts of the lateral teeth occlusal surfaces in a proper three dimensional location in occlusion.

5. Technique of waxing-up by addition of wax drops. Waxing-up cusp slopes of the lateral teeth in a proper three dimensional position in occlusion.
6. Shape and importance of fissures on the lateral teeth occlusal surfaces. Working and balancing parts of the occlusal surfaces of the lateral teeth.

Method of credit: teacher's approval and signature in the student's registration books.

Visitors Comments

We did not observe this course in operation. The exercise appears to be at an appropriate time in the curriculum.

Subject: LATIN LANGUAGE

Year of studies: I

Exercises: 60 hours

General remarks

The main aim of teaching Latin language to 1st year medical students is to introduce basic medical terminology and general rules of inflexion and word formation in Latin. The programme is based on the handbook *Lingua Latina ad usum medicinae studentium* by Sabina Filipczak-Nowicka and Zofia Grech-_mijewska. During seminars other textbooks are used: *J_zyk _aci_ski dla studentów medycyny* by Marian Chomonicik and *Lingua Latina medicinalis* by Marcin Piekarz, and also various original tasks prepared by the teacher basing on authentic materials. The programme consists of 60 hours and is divided into two semesters (30 hours in each semester). The course can be credited on the basis of semestral written papers.

Aims of the course

1. Introduction of basic rules of Latin grammar, with special regard to problems of medical Latin terminology.
2. Introduction of general anatomical terminology and specialised terms, and also simple abbreviations and phrases used in medicine.
3. Improving the students' ability to read and understand short texts in Latin (recognising names of diseases).
4. Improving the students' ability to write short texts in Latin (diagnoses, prescriptions).
5. Explaining basic terms and most commonly used Latin proverbs.

List of topics discussed during Latin language classes:

I semester

1. Pronunciation and stress rules in Latin
2. The verb - indicativus praesentis activi et passivi
3. The noun - declension I - III including declension of nouns of Greek origin
4. The adjective - inflexion, position and accordance with the noun
5. The most common prepositions in medical terminology
6. Basic prefixes and suffixes in medical terminology

II semester

1. The noun - declension IV-V
 2. The adjective - inflexion
 3. The adverb – formation and inflexion
 4. The numeral
 5. The verb - coniunctivus praesentis activi et passivi
 6. Examples of diagnoses in stomatology
 7. Basic phrases and abbreviations used in prescriptions
7. Selected Latin proverbs
Method of credit: teacher's approval and signature in the student's registration book.

Visitors Comments

The Visitors felt that there was little if any justification for continuing to include Latin in the curriculum and recommend its elimination.

Subject: FOREIGN LANGUAGE

Year of studies: I

Lectures: 60 hours

General remarks

The main aim of teaching foreign language to advanced students is to improve their abilities and practical knowledge of the language in four skills: speaking, listening, reading and writing. The programme has been based on original tasks using authentic materials (scientific and popular magazines, leaflets), video and audio cassettes, CD-ROMs.

Aims of teaching in advanced groups

- Eliminating differences in the command of English between particular students by revision of lexical and grammatical material from the secondary school,
 - Introduction of basic specialised terminology concerning the anatomy of the oral cavity, teeth, hygiene of the oral cavity, types of fillings, description of basic procedures and main diseases,
 - Encouraging independent use of professional literature in regard to future needs (individual work with scientific literature),
 - Developing the ability of communication in professional contexts (physician-physician, physician-patient communication),
- Basic business correspondence (making and offer, applying for participation in a conference etc.).

Visitors' Comments

The Visitors welcomed this initiative and some students emphasized the need for more time in this area, especially English. The case was made that this would be of immense benefit in preparing articles for international journals, in preparing contributions for scientific conferences and would encourage greater exchange.

Topics of lectures

(The list below covers material taught as part of the course on English language in order to familiarize students with medical vocabulary)

I semester

1. History of Dentistry
2. Dental specialities
 - types
 - characteristics
3. Oral hygiene:
 - A. Oral hygienist (duties), eating habits, fissure sealants
 - B. Toothpastes –, brushes (types), floss, disclosing tablets, mouthwashes. Chewing gum, water jets, properties, names of brushing methods, types of brushes
 - C. Fluoridation methods (history of fluoridation)
 - D. Fluorosis
4. Eating disorders
 - (anorexia bulimia) and how they affect dentition
5. Tooth decay
 - the carious process,
 - classification of cavities
6. Description of teeth
 - names
 - function
 - dentition types
 - surfaces
7. Dental anatomy

II semester

1. Dental abnormalities
2. Dental surgery
 - its organisation
 - the dental team
 - dental unit
 - dental instruments (basic)
3. Disinfection, sterilization, cross –infection control
4. Fear
 - coping with fear
 - dentist –patient communication
 - child management
5. Taking medical/ dental history
 - structure of the interview,
 - questions (types used and reasoning)
 - intraoral & extraoral examination

Method of credit: semestral written papers.

Subject: FIRST AID IN EMERGENCIES

Year of studies: I

Lectures: 5 hours

Exercises: 10 hours

Topic of lectures

1. General principles of first aid in emergencies
 - Basic Life Support (ABC)

Topic of exercises

2. Practical exercises (working on training phantoms) in:
 - dressing bleeding injuries, fractures,
 - diagnosing cardiac arrest,
- Basic Life Support (Airway, Breathing, Circulation): mouth-to-mouth ventilation.
3. External chest compression

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

The Visitors did not have an opportunity to observe this essential element of the training program.

Subject: LIBRARY TRAINING

Year of studies: I

Exercises: 2 hours

Training syllabus

Workshops

Librarianship, bibliography and scientific information: academic libraries in LODZ; organizational structure of university library, information about reading room, circulating rooms, information services, presentation of special bibliographies and library catalogues; types of collections (books, journals, special collection and information media - CDs, audio cassettes, video recordings, Euro Trans Med teletransmission), ERL-MEDLINE database and INTERNET.

Method of credit: credit registered in student's course registration book.

Visitor Comments

Please refer to comments on library facilities in section on facilities above

Subject : PHYSICAL EDUCATION**Year of studies: I****Exercises: 60 hours**

Students have classes once a week for 2 lesson hours, they chose the kind of classes and the time. Students showing a high degree of physical fitness and skills in particular disciplines of sport have the possibility to participate in sport sections classes: volleyball, soccer, swimming, skiing, athletics.

Topics of exercises

GYM HALL

- volleyball and basketball - improving technical elements, games, rules, generally developing, exercises,
- callanetics,
- aerobics,
- stretching,
- weight-lifting,
- silhouette-modeling exercises,
- badminton-improving technical elements,
- table tennis-improving technical elements,
- tennis - learning technical elements.

SWIMMING POOL**Classes are conducted for three levels of advancement:**

- beginners-exercises familiarizing with water, mastering of three swimming styles;
- intermediate group - improving techniques of style swimming starts and returns,
- advanced group-improving four swimming styles, elements of life-saving in water, rescue jumps, towage, elements of sport training.

Method of credit: based on attendance.**Visitors' comments:**

The Visitors felt that physical education is an elective matter for students and that it should not be part of the curriculum. The Lodz undergraduate curriculum is clearly far short of what is desirable in clinical dentistry (5,000 hours recommended). In this regard the time devoted to physical education should be devoted to dentistry.

YEAR 2**Subject: BIOCHEMIE****Year of studies: II****Lectures: 60 hours****Exercises: 110 hours****1. Enzymes**

Structure of enzymes (apoenzyme, prosthetic group, holoenzyme, active center). Functions of enzymes (active complex). Influence of temperature, pH, ion concentration, enzyme and substrate concentration on the activity of enzyme. Kinetics of enzymatic reactions (initial velocity, maximal velocity and Michaelis constant). Activators. Allosteric enzymes. Isozymes and proenzymes, multienzymatic systems. Regulation of enzyme activity. Classification of enzymes. Coenzymes- their structure and functions, role of vitamins. Formulas of the following coenzymes: NAD^+ , NADP^+ , FMN, CoQ, thiamin pyrophosphate, pyridoxal phosphate, biotin.

2. Nucleic acids and their biosynthesis

Purine and pyrimidine bases, ribo- and deoxyribonucleosides and nucleotides, kinds of bonds. Spatial structure of DNA and RNA. Kinds of RNA. Chromatin structure in eukaryotes. Structure of ribosomes. Replication and transcription. Posttranscriptional modification. Differences in genome, replication and posttranscriptional modification between eukaryotes and prokaryotes.

3. Proteins and their synthesis

Amino acids. Peptides and their biological role. Biosynthesis of protein, role of particular RNAs in the translation process. Activation of amino acids. Translation (initiation, elongation and termination), influence of antibiotics. Genetic code and its characteristics. Mutations. Posttranslational modification.

4. Respiratory chain. Formation and role of ATP. Krebs cycle

Catabolism and anabolism versus exo- and endoergic processes. High energy compounds and their role. CO_2 and H_2O as the end products of carbohydrates, lipids and proteins catabolism. Respiratory chain- components, branchings and protein complexes. Oxidative phosphorylation (chemiosmotic theory). Substrate phosphorylation. Inhibitors of the respiratory chain and uncouplers. Adenine nucleotide transport through mitochondrial membranes. Tricarboxylic acids cycle (Krebs cycle) - reactions and enzymes, connection with respiratory chain and oxidative phosphorylation. Substrate phosphorylation in the cycle and regulatory enzymes. Oxidative decarboxylation of alpha- ketoacids (alpha-ketoglutarate and pyruvate). Regeneration of oxaloacetate.

5. Metabolism of carbohydrates

Digestion of carbohydrates and absorption of glucose and other monosaccharides. Aerobic and anaerobic glycolysis, course, intracellular localization, regulation, tissue specificity (muscles, liver, erythrocyte). The role of hydrogen carriers through the inner mitochondrial membrane in the maintenance of continuity of aerobic glycolysis. Substrate phosphorylation in glycolysis. Reversibility of glycolysis reaction. Cori cycle. Gluconeogenesis from glycerol, lactate, pyruvate, intracellular localization and regulation. The pentose phosphate pathway, formation of NADPH, pentoses, relation with glycolysis. Synthesis and degradation of

glycogen - differences in muscles, liver; regulation. Regulation of blood glucose concentration.

6. Metabolism of lipids

Lipolysis - digestion and absorption of fats. The role of bile, effect of lipoprotein (intravascular) and triacyloglycerine (intracellular) lipases. Catabolism of fatty acids - activation and beta-oxidation, intracellular localization, connection with Krebs cycle and respiratory chain. Energy balance of beta-oxidation and total oxidization of fatty acids. Fatty acids synthesis - intracellular localization and regulation. The role of citrate, carnitine and malonyl - CoA. Biosynthesis of triacyloglycerols, cephalins and lecithins - origin of glycerophosphate and formation of phosphatidic acid. Interrelation between carbohydrate and lipid metabolism. Synthesis of ketone compounds - intracellular localization, ketone compounds as an energy material, physiological and pathological aspects of ketone compounds synthesis. Synthesis of cholesterol (in outline).

7. Metabolism of amino acids

Essential and nonessential amino acids, digestion of proteins, and absorption of amino acids. Full- and low-quality proteins, nitrogen balance. Amino acids catabolism - oxidative deamination, transamination, transdeamination and deamidation. Pathways of NH_4 - amidation, formation of glutamate and urea. Regulation of the urea cycle and relation to other cycles of metabolism. Decarboxylation of amino acids as a source of biogenic amines. Pathways of carbon skeleton of amino acids - glucogenic and ketogenic amino acids. Formation of nonessential amino acids - transamination and transition of some amino acids into other ones. Synthesis of adrenaline, acetylcholine creatine and phosphocreatine.

8. Body fluids. Teeth

Plasma proteins. O_2 and CO_2 transport. Regulation of Hb affinity to oxygen (Bohr effect). Buffer systems in blood. Acid-base equilibrium. Role of blood, lungs, kidneys and bones in the maintenance of acid-base equilibrium of the organism. Acidoses and alkaloses - classification, changes in plasma and compensation. Intracellular and extracellular calcium. The role of calcium and phosphates. Sources and forms of calcium in plasma. Proteins binding calcium. Hormonal regulation of calcium-phosphate metabolism (parathormone, calcitonin, vitamin D_3 - active form, role of other vitamins).

Structure of teeth, composition and role of saliva and dental plaque, dental calculus. Formation of caries, prophylaxis (theory of acid priority and other theories).

9. Hormones. Tissue biochemistry

Hormones and their classification according to their chemical structure, site of formation and storage. Hormones receptors. Role of protein G in hormones mechanism of action. Adenylate cyclase (guanylate), cAMP phosphodiesterase (cGMP), C and A_2 phospholipases. Hormonal regulation of carbohydrate metabolism, fat metabolism and reversible resorption of H_2O and Na^+ . The liver as a major site of detoxication processes of the organism (hydroxylation and coupling of apolar substances, synthesis of urea).

Method of credit: written test examination.

Visitors Comments

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Subject: BIostatistics and Epidemiology

Year of studies: II

Exercises: 30 hours

1. The rules of organizing and carrying out population studies:
 - the basic notions in the field of the calculus of probability and statistics,
 - the stages of population studies,
 - building research instruments in order to process data by computers.
2. The classification of data concerned with the health condition of the population
 - designing patterns of the results tables. The methods of calculating and analyzing statistical indexes and coefficients used in assessing the health situation of the population.
3. The methods of examining biological variation: measures of the average level, measures of dispersion, assessing the character of the empirical distribution.
4. The basic methods of examining statistical interdependencies.
5. The methods of analyzing the dynamics of health situation phenomena. The trends in mortality and morbidity of selected diseases.
6. The recapitulation of the acquired knowledge and solving problems concerned with descriptive statistics applying computers.
7. The basic distributions of random variables. The representative method of population studies
 - confidence and variability intervals.
8. Making statistical hypotheses – parametric tests.
9. Making statistical hypotheses – non-parametric tests.
10. The sources of information about the health condition of the population.
11. Screening studies - the early detection of diseases.
12. The methods of epidemiological studies.
 13. The epidemiological approach to the most important elements of the health situation in Poland: circulatory diseases, tumors, and infectious diseases.
 14. Estimating the health condition of the oral cavity.
 15. The final test.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

The visitors consider this an essential part of the progress being made in Poland to deliver health care on a prioritized basis to those most in need of treatment and special needs patients. The topics covered during the course appear to be well balanced.

Subject: PHYSIOLOGY

Year of studies: II

Lectures: 60 hours

Exercises: 120 hours

I. Basic and cellular physiology

- 1) Body fluids compartments and composition
- 2) Cell structure and functions
- 3) Intercellular communication

II. Excitable tissues

- 4) Nerve cells
- 5) Skeletal muscle
- 6) Cardiac muscle
- 7) Smooth muscle
- 8) Synaptic transmission
- 9) Sense organs and its receptors

III. The nervous system function

- 10) Cutaneous, proprioceptive and visceral sensation
- 11) Vision
- 12) Audition and equilibrium
- 13) Smell and taste
- 14) Wakefulness and sleep
- 15) Reflexes
- 16) Control of the posture and movement
- 17) Autonomic nervous system
- 18) Central regulation of visceral function
- 19) Neural basis of instinctual behavior and emotions
- 20) Higher functions of the nervous system

IV. Metabolism

- 21) Energy balance
- 22) Energy metabolism
- 23) Nutrition

V. Endocrinology

- 24) The thyroid gland
- 25) Endocrine function of the pancreas
- 26) The adrenal medulla and adrenal cortex
- 27) Hormonal control of calcium and physiology of bone
- 28) The pituitary gland
- 29) Hypothalamus
- 30) Endocrine functions of the kidneys, heart and pineal gland

VI. Reproductive function

- 31) The male reproductive system
- 32) The female reproductive system
- 33) Pregnancy

34) Lactation

VII. Gastrointestinal system

35) Mechanical function, digestion and absorption

36) Exocrine portion of the pancreas

37) Liver and biliary system

38) Neural and hormonal regulation of gastrointestinal function

VIII. Circulation

39) Blood

40) The heart

41) Dynamics of blood and lymph flow

42) Cardiovascular regulatory mechanisms

43) Circulation through special region

44) Cardiovascular homeostasis in health and disease

IX. Respiration

45) Properties of gases

46) Pulmonary function

47) Mechanics of respiration

48) Gas transport between lungs and tissues

49) Respiratory control

50) Respiratory adjustments in health and disease

X. Formation and excretion of urine

51) Renal function

52) Filling and emptying of the bladder

53) Composition and volume regulation of extracellular fluid

Method of credit: written test examination.

Visitors' Comments

The course has a specific program for dental students, including the physiology of the masticatory system. However, the program is far too substantial with excessive material and detail and should be reduced considerably. However, an excellent relationship exists between the Institute of Stomatology and the Department of Physiology. The physiology laboratories are well equipped. The part of the course dealing with the masticatory system contains some duplication with unnecessary detail.

Subject: PHYSIOLOGY OF THE MASTICATORY SYSTEM**Year of studies: II****Exercises: 24 hours****Topics of exercises****1. A. Anatomy and function of the masticatory system.**

- masticatory system and its elements
- changes in the masticatory system occurring with age.

B. Practical part:

Examination of the oral cavity, tooth diagram.
Introduction to waxing-up method by addition of wax drops.

2. A. Functions of the masticatory system. Occlusal conditions in the individual development.

- normal development of the masticatory system in different periods of life
- changes in the masticatory system occurring with age
- functions of the masticatory system occurring with age

B. Practical part:

Examination of the oral cavity considering the problems discussed in the theoretical part.
Examination of face and neck external surfaces. Examination of submental, submandibular and neck lymph nodes. Examination of the surface sensibility.
Waxing-up of the tooth crown by addition of wax drops. Part II.

3. A. Morphology and physiology of teeth and periodontal ligaments.

Interrelation between functions and anatomy of the masticatory system:

1. Teeth - morphology and function.
2. Periodontal ligaments - morphology, role of the adaptive and hydraulic periodontal system, epithelial attachment.
3. Causes of dental deposits accumulation and methods of their removal.

B. Practical part:

Reciprocal examination of students:

- evaluation of physiological tooth movement,
- evaluation of dental pulp sensitivity,
- evaluation of tooth reaction to percussion,
- evaluation of dental deposits accumulation,
- waxing-up of the crown by addition of wax dots. Part II.

4. A. Salivary glands, saliva and oral mucosa.

Salivary glands - types, structure, function

Mechanical and chemical role of the saliva in the process of mastication and digestion.

Electrogustometry - taste, tactile, heat and cold receptors in the oral cavity.

Oral mucosa - structure and function.

Immunological processes in the oral cavity.

B. Practical part:

Reciprocal examination of students' salivary gland patency, evaluation of the oral mucosa, examination of taste using electrogustometry.

Waxing-up by addition of wax drops. Part III.

5. A. Neuromuscular masticatory system. Morphology and

biomechanics of the temporo-mandibular joint.

Neuromuscular system: muscles activity in various movements of the mandible, functional harmony of masticatory muscles as the condition of normal formation of masticatory system structures, diagnosis of normal masticatory function. Examination of masticatory muscles. Temporo-mandibular joint: morphology, biomechanics, examination methods.

B. Practical part:

Reciprocal examination of students' neuromuscular masticatory system and TMJ.

6. A. Biomechanics of the masticatory system in three dimensional static and dynamic system. Part I.

Biomechanics of the masticatory system – three-dimensional relation of masticatory system elements in static and dynamic conditions.

B. Practical part:

Intraoral registration of the mandibular central position in relation to the maxilla in the Gerber's Condylator.

7. Biomechanics of the masticatory system in three-dimensional static and dynamic system. Part II.

Transfer of three-dimensional relation between the mandible and the maxilla in static and dynamic conditions into laboratory ones (outside the oral cavity) - articulators.

B. Practical part:

Analysis of premature contacts on students models in Gerber's Condilator.

8. A. Diagnosis of normal structure and function of the masticatory system.

Methods of determining proper structure and function of the masticatory system for diagnostic purposes.

1. Features of normal occlusion according to Angle's classification.
2. Methods of face profile analysis according to Szwartz's classification (biometric field).
3. Clinical functional tests.

B. Practical part:

Reciprocal contacts of lower teeth with upper teeth on models of different patients' dentitions. Evaluation of the difference between the central occlusion and maximal tooth intercuspation on models of different patients' dentition. Determination of the buccal, medial cusp contact of the first upper tooth in relation to lower teeth.

Method of credit: oral verification, teacher's approval and signature in the student's registration book.

Visitors' Comments

Unfortunately it was not possible to see the students being taught in this area. The Visitors were impressed with the level of commitment to this area but again stress the need for emphasizing competence in basic or primary dental care.

Subject: HISTOLOGY, EMBRYOLOGY (Mastication)

Year of studies: II

Lectures: 30 hours

Classes and seminars: 120 hours***Topics of lectures***

1. A) Cytochemical and histochemical markers of certain functions of the cells and the organs.
B) Basic Cytogenetics with special regard to genetic code.
2. A) Basic human Embryology.
B) Primary and final organogenesis of embryo and foetus.
3. Histophysiology of the proper and supporting connective tissue.
4. Cytophysiology of morphotic elements of blood.
5. A) Histological and molecular mechanisms of muscle contraction.
B) Cytophysiological markers of neural conduction.
6. General structure and function of the masticatory organs.
7. Histophysiology of the oral cavity and the related organs.
8. Histological and functional diagnostics of respective parts of digestive tract.
9. Histophysiology and development of the respiratory system.
10. Histophysiology of a tooth and its surroundings.
11. Development of cephalic part of digestive tract with regard to the masticatory organs.
12. Histophysiology and development of the sense organs.
13. Influence of the endocrine system on the formation (development) of a tooth and its surroundings.
14. Congenital craniofacial defects.
15. A) Histologic diagnostics with special regard to the masticatory organs.
B) Metodologic basics of the examination (test) on the subject.

Topics of classes and seminars

1. Microscopy and histology-employed techniques as well as basic techniques used in cytophysiology. Methods of examination of the masticatory organs.
2. Cytophysiology part 1. Microscopic and ultrastructural cell structure. Microscopic and submicroscopic and molecular markers of certain cell functions.
3. Cytophysiology part 2. Cell divisions and the reproductive cells. Basics of cytogenetics.
4. General embryology. Basic stages of human embryo and foetus development.
5. Histophysiology of the epithelial tissue. Specific cellular structures.
6. Oral colloquy on the lectures` material and classes from 1 to 5.
7. Histophysiology of the proper connective tissues. Participation of macrophages and plasmatic cells in the immune response.
8. Supporting connective tissues: cartilage and bone tissues. Histogenesis and mechanisms of ossification.
9. Blood and basics of hemopoiesis. Participation of the white blood cells in the immune response.
10. Histophysiology of the muscular tissue. Ultrastructural and biochemical markers of the myon function.
11. Histophysiology of the nerve tissue and the nervous system. Ultrastructural and chemical basics of the neuronal conduction.
12. Test colloquy on the lectures` material and classes from 7 to 11.
13. Blood circulatory system and hematopietic organs.
14. Lymphatic system and lymphopietic organs. Lymphatic system of the masticatory organs.
15. Endocrine glands. Influence of the endocrine system on the formation (development) of a tooth and its surroundings.
16. Digestive system part 1. Skin. Oral cavity and the related organs.
17. Digestive system part 2. The tooth and its surroundings.

18. Digestive system part 3. Gastrointestinal tube. Liver. Pancreas.
19. Oral colloquy on the lectures` material and classes from 13 to 18 and diagnosis of histological preparations (3 preparations – diagnosis, justification of the diagnosis, differential diagnosis).
20. Respiratory system.
21. Large and small salivary glands.
22. Role and function of the masticatory organs. Histophysiology of the masticatory organs in the old individuals.
23. Urinary and reproductive systems.
24. Sense organs: the eye, the ear.
25. Development of the tooth and its surroundings.
26. Written paper colloquy on the lectures` material and classes from 20 to 25.
27. Rectifications and final colloquies.
28. First review of preparations.
29. Second review of preparations.
30. Practical examination (5 preparations – including 1 electronogram – diagnosis, justification of the diagnosis, differential diagnosis).

Method of credit: practical examination (microscopic diagnosis) and theoretical written test examination.

Visitors' Comments

In this course, special attention is given to the learning of dental morphology. A good working relationship exists between the Institute of Stomatology and the Department of Histology, with excellent facilities provided by the latter. The Visitors found overlap with some other topics, including Immunology and Functions of the Masticatory System etc. it would be reasonable to include Biophysics in the programme along with Physiology with a significant reduction in the time spent on these topics. The comments which are made in respect of excessive and/or irrelevant detail might also apply here and every effort should be made to reduce and integrate courses

Subject: HISTORY OF PHILOSOPHY**Year: II****Lectures: 20 hours****Exercises: 30 hours*****Topics of lectures***

1. Philosophy as a science and an outlook on life.
2. The origin of European philosophy.
3. The acme of Greek metaphysics: Plato and Aristotle.
4. God, human being and the universe in St. Augustine's philosophy.
5. Cartesian turn in modern philosophy.
6. Kant's epistemology.
7. Introduction to philosophy of history.
8. Culture and individual - Freud's account.
9. Freedom and responsibility - existentialistic account.
10. Recapitulation of lectures

Topics of exercises

1. Theory of truth.
2. Cognitive and practical functions of philosophy.
3. Problem of evil - a philosophical account.
4. Truth and good in metaphysical philosophy.
5. Problem of evil - a mythological account.
6. Freedom in philosophical model of being.
7. Good and truth in non-metaphysical philosophy.
8. Evil and suffering. Illness as metaphor.
9. Philosophical models of the universe.
10. Evil and suffering. Ontological and functional models of illness.
11. Philosophical introduction to ecological ethics.
12. Progress as a philosophical category. Utopia of the universe free from illness.
13. Illness and death. Introduction to thanatology.
14. Philosophical problems of death and dying.
15. Recapitulation of classes.

Method of credit: teacher's approval and signature in the students registration book.

Visitors Comments

The visitors consider this an innovative program although its inclusion must not be to the detriment of competence in clinical dentistry.

Subject: HISTORY OF MEDICINE

Year of studies: II

Lectures: 4 hours

Exercises: 26 hours

Topics of lectures

1. Medicine in nazi and soviet concentration camps.
2. Development of dentistry from antiquity to present-days.

Subject of studies

1. The source of historical knowledge- reconstruction of history process.
2. Medicine in ancient countrys: Egypt, China, India, Greece, Roma considerate with the methods of teeth treatment.
3. Medicine in christian west -european countries and arabian caliphate. Teeth care procedure in middle ages period.
4. European begining a modern medicine - Renascence and XVII century.
5. Enlightenment period in Europe - development of medicine and dentistry.
6. Accomplishment medical science since XIX century till half XX century.
7. Polish medicine since XVI c. to XVII c. (Renascence and Enlightenment period)
8. Polish medicine during annexations and II Republic with comment of teaching in the middle and high dental schools.
9. Development dental erudition in Poland in XIX and XX century.

Method of credit: examination.

Visitors' Comments

The visitors thought this an interesting and innovative program but perhaps might be better as an elective because of the insufficient exposure to clinical dentistry.

Subject: MATERIALS SCIENCE
Year of studies: II
Pre-clinical simulation exercises: 47 hours

Topics of exercises

1. Impression materials and types of plaster.
2. Types of laboratory wax. Isolation materials.
3. Acrylic resins.
4. Materials for veneering crowns and bridges.
5. Types of connection between metal parts of crowns and bridges and their veneers.
6. Investment materials.
7. Principles of casting, methods, types of casting, heat source.
8. Metals and metal alloys.
9. Metal and metal alloy corrosion. Grinding and polishing materials.
10. Temporary restoration and lining materials.
11. Cavity restoration materials. Part I. (Amalgams).
12. Permanent materials for cavity restorations. Part II. (Composites).
13. Cavity restoration materials. Part III. (Glass ionomer cements, comonomers).
14. Dentine and enamel adhesion to restorative materials.
15. Assessment of the student.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

The Visitors did not have an opportunity to observe this course.

Subject: FOREIGN LANGUAGE
Year of studies: II
Lectures: 60 hours

Topics of lectures

(The list below covers material taught as part of the course on Foreign Language in order to familiarize students with medical vocabulary)

I semester

1. Charting
2. Dental radiography
- types/purpose
3. Restorative dentistry
- restorative materials -types,
6. amalgam/composite characteristics properties, advantages / disadvantages/
7. comparison)
- amalgam – mercury contamination hazard
4. Analgesia/analgesics
- other pain relieving techniques
- (homeopathy, acupuncture)

- 5. Anaesthesia
 - types (surface local general)
 - precautions
- 6. Periodontology
 - examination of the gums
 - perio charting
 - gingivitis/ periodontitis/ pyrohea treatment and prevention
- 7. Oral surgery
 - extractions
 - post operative care
 - prevention of dry socket
 - gingivectomy
- 8. Endodontics
 - root canal treatment (RCT)

II semestr

- 1. Third molars
 - problem faced
 - 2. Orthodontics
 - types of malocclusion
 - orthodontic appliances
 - impression techniques
 - 3. Disorders
 - bruxism
 - nail biting
 - thumb sucking
 - bottle mouth syndrome
 - 4. Prosthetics
 - impression techniques
 - partial and complete dentures
 - bridges
 - implants
 - 5. Dental trauma
 - reasons
 - types
 - treatment
 - 6. Congenital abnormalities
 - mesiodens (midline supernumeraries)
 - enamel hypoplasia
 - cleft palate / frenectomy
 - 7. Dentistry and the law – legal aspects
 - 8. Presenting a paper / poster
 - organisation of the poster
 - language presentation skills
- Method of credit:** semestral written papers and final exam.

Visitors' Comments

The content of this course seems to be in conflict with the title and content of the course. The Visitors were assured that the material taught in this course was included to familiarize students with medical vocabulary. However, the Visitors concluded that this course should primarily be directed at perfecting language skills.

Subject: CARDIOPULMONARY RESUSCITATION (CPR)

Year of studies: II

Lectures: 10 hours

Exercises: 10 hours

Topics of lectures

1. Guidelines for cardiopulmonary resuscitation (Basic Life Support, Advanced Life Support).
2. Guidelines for Paediatric Life Support.
3. Drugs and equipment used for resuscitation.
4. Guidelines for emergencies.
5. Shock.

Topics of exercises

1. Practical exercises (working on training phantoms) in:
 - relieving obstructions of upper airways, intubation,
 - ventilation using „AMBU”,
 - external chest compression,
 - intravenous injections,
 - lateral position.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

The visitors did not have an opportunity to see this essential part of the curriculum.

Subject: PAEDIATRIC DENTISTRY**Year of studies: II****Exercises: 15 hours****Prophylaxis and dental hygiene*****theoretical part***

1. Importance of proper oral hygiene in prevention of caries and periodontal diseases.
2. Demonstration of tooth brushing and flossing methods on models.

practical part

Oral hygiene instructions for children. Teaching children the proper tooth brushing method using models and disclosing agents.

Simulation exercises**Session 1.**

1. Preventive pit and fissure sealing in the molar.
2. Class I cavity preparation and restoration (Black classification) in the deciduous molar. Indirect pulp capping with calcium hydroxide or zinc oxide and eugenol, carboxylate cement base, and amalgam restoration.

Session 2.

1. Caries treatment of deciduous incisors with the impregnation method.
2. Class II cavity preparation (Black classification) in the deciduous molar. Insertion of the base into the cavity. Glass ionomer restoration using dental matrix.

Session 3.

1. Endodontic treatment of deciduous and permanent teeth with incompletely formed roots.
 - a) pulpotomy in primary molars.
 - b) root canal treatment of the permanent tooth with incompletely formed root.
2. Fitting-in and cementation of a standard steel crown on the primary molar with extended carious lesions.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors Comments

Comments on this course are set out for the final year.

Subject: CONSERVATIVE DENTISTRY**Year of studies: II****Lectures: 15 hours****Pre-clinical simulation exercises: 45 hours*****Topics of lectures***

1. Caries epidemiology.
2. Signs and symptoms, diagnosis and treatment of simple caries
3. Methods of dental cavity preparation according to Black classification.
4. Principles of cavity preparation for composite and glass ionomer restorations.
5. Methods of cavity filling with silver amalgam, composite and glass ionomer materials.
6. Role of saliva in caries prevention.
7. Caries prophylaxis.

Topics of exercises

1. Dental caries. Diagnosis and clinical classification of simple caries.
2. Simple caries treatment. Medicaments and materials used:
Methods of preparing Class I simple and complex cavities.
Preventive Resin Restorations, cavity restoration with temporary and Permanent dental materials, pit and fissure sealants.
Types of Class II cavities. Methods of preparation and restoration of different types of Class II cavities. Application of complex dental matrices and wedges.
Principles of Class III cavity preparation. Matrices, retraction threads.
Methods of Class IV cavity preparation and restoration. Application of different matrices and pins.
Methods of Class V cavity preparation and restoration. Application of matrices for Class V cavities.
3. Atypical caries treatment. Reconstruction of anatomical crown after endodontic treatment. Standard post and core.
4. Dental instruments and materials for preparing different plastic restorations.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors Comments

Comments on this course are set out for the final year.

Subject : PHYSICAL EDUCATION**Year of studies: II****Exercises: 60 hours**

Students have classes once a week for 2 lesson hours, they chose the kind of classes and the time. Students showing a high degree of physical fitness and skills in particular disciplines of sport have the possibility to participate in sport sections classes: volleyball, soccer, swimming, skiing, athletics.

Topics of exercises

GYM HALL

- volleyball and basketball - improving technical elements, games, rules, generally developing, exercises,
- callanetics,
- aerobics,
- stretching,
- weight-lifting,
- silhouette-modeling exercises,
- badminton-improving technical elements,
- table tennis-improving technical elements,
- tennis - learning technical elements.

SWIMMING POOL

Classes are conducted for three levels of advancement:

- beginners-exercises familiarizing with water, mastering of three swimming styles;
- intermediate group - improving techniques of style swimming starts and returns,
- advanced group-improving four swimming styles, elements of life-saving in water, rescue jumps, towage, elements of sport training.

Method of credit: based on attendance.

Visitors Comments

See earlier comments on Physical Education

Year 3

Subject: MOLECULAR BIOLOGY

Year of studies: III

Lectures: 5 hours

Topics of lectures

- I. Nucleic acids and chromatin; structure and function - short review
- II. Recombination and cloning of DNA
- III. Methods of the nuclei acid hybridizations
 1. Southern and Northern blotting
 2. Hybridization *in situ*; FISH technique.
- IV. Polymerase chain reaction - PCR, bases, modification and application.
- V. Cell cycle - genes, proteins, regulation
- VI. Apoptosis
- VII. Molecular diagnostic methods in clinical medicine.
 1. Virusology and bacteriology
 2. Genetic diseases
 3. Molecular genetics in oncology
 4. Transplantology
 5. Forensic medicine
- VIII. Gene therapy (preliminary information)

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

In this course, essential topics in molecular biology for dentists have been clearly identified. In recent years, molecular biological techniques have had an important impact on a wide-variety of clinical diagnostics. The advent of Polymerase Chain Reaction (PCR) technology and in situ hybridization technology have dramatically increased the sensitivity and accuracy of diagnostics, such as rapid microbial pathogen detection, identification without culture and early detection of developing pathology. This type of technology will continue to develop and will impact directly on all clinical disciplines, including dentistry.

Although this course would seem to be suitable length and content nevertheless we draw the readers attention to comments made in relation to other related courses such as Biochemistry where we recommended a reduction and integration of educational objectives between courses.

Subject: INTERNAL DISEASES**Year of studies: III****Lectures: 50 hours****Exercises: 70 hours**

1. Propedeutics of diseases
 - Anamnesis (history taking)
 - Physical examination
2. Cardinal manifestations of disease
 - A. Pain
 - Headache
 - Chest pain
 - Abdominal pain
 - Pain of extremities
 - B. Alterations in body temperature
 - Disturbances of temperature regulation
 - Shivers and Fever
 - C. Alterations in circulatory and respiratory functions. Cough and haemoptysis
 - Hiccup
 - Dyspnea
 - Cyanosis
 - Oedema
 - Palpitation
 - D. Alterations in genito – urinary function
 - Disturbances of urination, incontinence, enuresis
 - Oliguria, poliuria, nocturia
 - Haematuria
 - Disturbances of menstruation
 - E. Alterations in gastrointestinal function*
- Oral manifestations of diseases
 - Dysphagia
 - Indigestion
 - Anorexia, nausea, vomiting
 - Constipation, diarrhea
 - Haematemesis and melena
 - Jaundice
- F. Alterations in body weight*
 - Weight loss
 - Gain in weight
- G. Haematological alterations
 - Pallor and anaemia
 - Bleeding
 - Enlargement of lymph nodes and spleen
- H. Biochemistry and immunology
 - Disturbances of fluids and electrolytes balance
 - Acidosis and alkalosis
 - Immunity in disease
3. Etiology, pathogenesis and symptomatology of circulatory disorders
 - Approach to the patient with heart disease
 - Cardinal manifestations of heart disease

ECG basics

Other methods of cardiac examination

Disturbances of rhythm, frequency, rhythm and conduction

Heart failure (division)

High and low output syndromes

Congestive heart failure, acute left ventricle failure (pulmonary oedema, asthma cardiale)

Chronic congestive heart failure

Congenital heart disease

Acquired valvular heart disease

Pericarditis

4. Disorders of vascular system

Atherosclerosis and arteriosclerosis

Hypertension

Cardiovascular collapse, shock

5. Haematology

Posthemorrhagic anaemia

Iron deficiency

Anaemia and other microcytic anaemias

Macrocytic anaemias

Pernicious anaemia and other megaloblastic anaemia's

Haemolytic anaemia

Anaemia in the course of chronic disorders

Anaemia in bone marrow failure

Blood transfusion and complications thereof

Haemophilia and related diseases

Hereditary haemorrhagic telangiectasia

White blood cell line diseases

Leukaemia

Myeloproliferative disorders

Hodgkin and non-Hodgkin lymphoma

Paraproteinemia. Myeloma multiplex

Hypogammaglobulinemia and other alterations in serum proteins

Exercise topics

1. Training in history taking.
2. Training in physical examination.
3. Presentation of typical signs and symptoms.
4. Reading and interpreting ECG.
5. Presentation of patients.
6. Colloquium.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors Comments

There is a serious over-loading of the curriculum in the medical subjects, in both content and detail. This applies particularly to this course although it may be excellent in the context of training medical doctors there is far too much memorizing of irrelevant detail. Courses in the medical sciences are very intensive and in-depth, with considerable theoretical detail and extensive practical exercises. The Visitors were of the opinion that these courses should be rationalized by concentrating on topics of particular relevance to dentistry, by removing excessive detail and by integrating. Dental students need particular exposure to clinical medicine if they are to be competent in managing and/or recognizing the sick patient and ensuring that the treatment provided does not have deleterious consequences for the patient. This is approached in a theoretical manner that is inappropriate in our view. . The Visitors got the impression that many courses that essentially had been designed for future medical practitioners were being taken by dental students. This is understandable and far more convenient for teachers because it obviates the need and inconvenience to address the specific needs of dental or stomatological students. This comment will recur throughout this report. In the time available for a visit it would not be possible to detail those areas which could be eliminated or reduced. That is a matter for the faculty in the Dental Institute to debate and agree with their medical and science colleagues who teach their stomatology students. It is an issue that needs to be addressed and resolved if the dental curriculum in Lodz is to be given an overall direction with agreed educational aims, objectives, outcomes and stated competences that students must achieve. This is not to lose sight of their need for stomatologists to have competence in the subjects covered by "human diseases" but there must be a context and considerable rationalization of priorities. Also the visitors are conscious of the need to extend students experience in clinical dentistry. By reducing time spent on these medical and science subjects there may be an opportunity to move many aspects of these courses into an earlier year.

Subject: INTRODUCTION INTO GENERAL SURGERY

Year of studies: III

Lectures: 20 hours

Exercises: 60 hours

Topics of lectures

1. Asepsis and antisepsis.
2. Fluids, electrolytes and acid-base balance.
3. Shock.
4. Bleedings and hemorrhages.
5. Transfusions of blood and blood's derivatives.
6. Wounds and their healing.
7. Infections in surgery.
8. Preparation of surgical team for operations.
9. Surgical tools and threads.
10. Fractures and luxation.
11. Surgical dressings.
12. Craniofacial anomalies and traumas.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors Comments

Please refer to the comments in respect of Internal Medicine, the section which precedes this one.

Subject: PHARMACOLOGY

Year of studies: III

Lectures: 50 hours

Exercises: 60 hours

The programme is based on 14 seminars, 40 hours in total and 30 two-hour lectures (60 hours in total). The full course consists of 100 hours and is finished with an exam.

Topics of lectures

Drugs and their origin, ways of administration, mechanisms of action, metabolism in the body, interactions, body condition and effect of drugs, addiction.

Local anaesthetics, analeptics, sedatives, sleep-inducing drugs, psychotropic drugs, analgesics. The pharmacology of the vegetative system and smooth muscles. Cardiac drugs, diuretics, drugs administered in coronary disease and hypertension, expectorants, antitussive drugs, glycocorticosteroides, antihistaminic drugs, management of allergic shock. Antibiotics, sulphonamides, disinfectants, drugs affecting trophic processes in the teeth. Drugs changing blood coagulation, inducing haematopoietic system, vitamins. Anti-neoplastic drugs.

Topics of tutorials**Winter semester****Tutorial I**

1. General formulary

Index of drugs registered in Poland. Legislation from 27.09.1991 concerning the regulation of payment for drugs and sanitary materials, Official Gazette with Current Legislation no 95, item 422 from 1994. Pharmacopoeia. Officinal drugs, forms, main drugs. Units of weight and volume and approximate measures used in formulary. Doses of drugs in adults, children (formulas for calculation) and elderly. Narcotics. Extremely potent drugs. Powerful and mild drugs. Prescriptions. Competencies and responsibilities of physicians and pharmacists. Formulary incompatibilities. Formulary abbreviations.

2. Solid drugs

- a) Simple and complex non-composed powdered drugs for external and internal use.
- b) Weighted (composed) simple and complex powdered drugs.

Tutorial II

1. Revision of general formulary and powdered drugs; writing prescriptions

2. a) Tablets

b) Herbs

3. Soft drugs

a) Suppositories

b) Ointments, pastes

Tutorial III

- 1. Revision of general formulary, solid and soft drugs with examples of prescriptions.

2. Liquid drugs
 - a) Solutions for injections, external and internal use
 - b) True mixtures
 - c) Suspensions (e.g. Procaine penicillin, nystatin in suspension)
 - d) Galen drugs: tinctures, extracts. Common mistakes in prescriptions written by physicians.

Tutorial IV

1. Written test – formulary (tutorials I, II and III)
2. Local anaesthetics with detailed formulary
3. Analeptic and excitant drugs with detailed formulary
4. Experiments
 - a) Surface analgesia of the cornea in rabbit's eye with cocaine hydrochloride and lidocaine hydrochloride
 - b) Analgesia of the skin with ethyl chloride

Tutorial V

1. a) Discussion of the test – formulary
 - b) Revision – local anaesthetics and analeptics
2. Sedative drugs with detailed formulary
3. Sleep-inducing drugs with detailed formulary
4. Anxiolytic drugs with detailed formulary

Tutorial VI

1. a) Discussion and repeat test – formulary
- b) Test – sedatives, sleep-inducing drugs and anxiolytic drugs with formulary.
2. Antipyretic drugs, analgesics and anti-inflammatory drugs with detailed formulary
3. Narcotic analgesic drugs with detailed formulary
4. Experiment – analgesic effect of metamizol and morphine hydrochloride in mice; „hot plate” method

Tutorial VII

1. Written test – tutorials IV, V and VI
2. Seminar – drugs affecting parasympathetic system with detailed formulary
3. Experiment – effect of atropine sulphate and pilocarpine hydrochloride on pupils in rabbit.

Summer semester

Tutorial VIII

1. Formulary of drugs affecting parasympathetic system

Tutorial IX

1. Revision – drugs affecting vegetative system
2. Detailed formulary of smooth muscles relaxants
3. Formulary of drugs used in ischaemic heart disease and arterial hypertension

Tutorial X

1. Revision – tutorial IX
2. Expectorant and antitussive drugs with detailed formulary
3. Formulary of drugs used in asthmatic attack

Tutorial XI

1. Revision – tutorial X
2. Detailed formulary of bactericidal antibiotics

Tutorial XII

1. Detailed formulary of bacteriostatic antibiotics
2. Detailed formulary of sulphonamides

Tutorial XIII

1. Revision – antibiotics and sulphonamides
2. Detailed formulary of glycocorticosteroides and anti-histaminic drugs
3. Drugs used in anaphylactic shock

Tutorial XIV

1. Written test (3rd) concerning the pharmacology of the vegetative system, smooth muscles relaxants, drugs used in arterial hypertension and ischaemic heart disease. Expectorant and antitussive drugs, antibiotics, sulphonamides, glycocorticosteroides, anti-histaminic drugs and drugs used in anaphylactic shock with detailed formulary.
2. Detailed formulary of disinfectants.

Method of credit: An exam in the summer session, consisting of a written exam – formulary as the practical part and of an oral exam. During the practical part of the exam the students are expected to write 20 prescriptions for various drugs. Failing the practical exam means failing the whole exam in pharmacology.

Visitors' Comments

This is a focused course for dental students. The Visitors were concerned that this course should be integrated both vertically as well as horizontally with other relevant courses. Nevertheless we would draw the readers attention to the comments made in respect of Internal Medicine two sections preceding this one especially in respect of inclusion of unnecessary detail.

Subject: IMMUNOLOGY
Year of studies: III
Lectures: 10 hours
Seminars: 27 hours

Topics of lectures

Immune system - a role in health and disease. Interactions between immune and neuroendocrine systems. Cytokines and a role of cytokine network in immunological mechanisms. Innate immunity - humoral mechanisms (particularly complement system), cellular mechanisms (particularly NK cells, macrophages, neutrophils). Mucosa-associated lymphoid tissue, inflammation, salivary components (particularly sIgA) - a role in innate immunity. Lymphocytes T and B - origin and development; subpopulations. A role of lymphocytes in immune reactions. Adaptive immunity - humoral and cellular mechanisms (antibodies, lymphocytes Th, lymphocytes Tc). Hypersensitivity reactions - types II, III and IV. Anaphylactoid reactions. Hypersensitivity to drugs. Tumor immunology. Immunological reactions in pathomechanism of dental plaque. Oral mucosa diseases and periodontal diseases - a role of immune reactions.

Topics of seminars

Theoretical part: Lymphoid system. Immunoglobulins. Major histocompatibility complex. Neutrophils and their role in immune reactions. Immunity to fungi, bacteria, viruses and worms. Acquired immunodeficiency syndrome (AIDS). Immunoprophylaxis. Immediate hypersensitivity. Allergic diseases.

Practical part: Immunological techniques - precipitation reactions, agglutination reactions (active agglutination tests and passive agglutination tests), complement fixation test, direct and indirect immunofluorescence, radioimmunoassay, enzyme-linked immunosorbent assay (ELISA), effector cell assays, diagnostics of allergic diseases.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

This course provides a good basic grounding in immunology for dental students but it is nevertheless within the ambit of comments made in respect of internal medicine above..

Subject: MICROBIOLOGY
Year of studies: III
Lectures: 20 hours
Exercises: 62 hours

Topics of lectures

1. Classification of bacteria. Morphology and biology of bacterial cell.
2. Mechanisms of pathogenicity of bacteria.
3. Antibiotics and chemotherapeutics. Bacterial resistance to antibiotics.
4. Pathogenic Gram-positive and Gram-negative bacteria.
5. Classification of viruses. Morphology and replication of viruses in eucaryotic cells. Mechanisms of viral pathogenicity. Vaccines and antiviral drugs.
6. Pathogenic DNA viruses.
7. Pathogenic RNA viruses.

8. Human immunodeficiency virus (HIV) and AIDS.
9. Microbiology of human oral cavity.
10. Bacteria in aetiology and pathogenesis of dental caries and periodontal diseases.

Topics of exercises

General microbiology

1. Factors influencing bacterial growth. Culture media for bacteria. Cultivation and isolation of bacteria; preparation of pure cultures.
2. Morphology of bacterial cell. Staining procedures for bacteria.
3. Bacteria in human body and in environment. Physiological bacterial flora. Carriage of pathogenic bacteria. Sterilisation and disinfection techniques.
4. Identification and classification of bacteria according to their biochemical properties.
5. Antibiotics and chemotherapeutics. Determination of bacterial resistance to antibiotics.

Medical microbiology

6. Gram-positive aerobic and facultative cocci; genus *Micrococcus* and *Staphylococcus*.
7. Gram-positive facultative and anaerobic cocci; genus *Streptococcus*, *Enterococcus*, *Peptococcus* and *Peptostreptococcus*.
8. Gram-negative aerobic cocci; genus *Neisseria*. Spirochetes; genus *Treponema*, *Borrelia* and *Leptospira*.
9. Acid-fast bacteria and nocardia; genus *Mycobacterium* and *Nocardia*.
10. Gram-positive nonsporulating bacilli; genus *Corynebacterium*, *Listeria*, *Erysipelothrix*, *Lactobacillus* and *Actinomyces*.
11. Gram-positive sporulating aerobic and anaerobic bacilli; genus *Bacillus* and *Clostridium*.
12. Gram-negative anaerobic bacilli; genus *Bacteroides*, *Porphyromonas*, *Prevotella* and *Fusobacterium*.
13. Gram-negative enteric bacilli; family *Enterobacteriaceae* - genus *Escherichia*, *Proteus*, *Klebsiella*, *Salmonella*, *Shigella* and *Yersinia*.
14. Gram-negative aerobic and facultative bacilli; genus *Pseudomonas* and *Vibrio*.
15. Diagnostics of viral diseases; cultivation and identification of viruses.

Method of credit: examination.

Visitors' Comments

Microbiology, Parasitology and Mycology, and Infectious Diseases are essentially all contained within the overall discipline of Microbiology. It would be very helpful if these courses could be rationalized and integrated into a single course, concentrating on microbial diseases of importance to dentistry. More emphasis should be placed on cross-infection control and good cross-infection control practice in dentistry. Topics of particular importance include, HIV/AIDS, Hepatitis viruses, Herpes group viruses, vaccination, antimicrobial drugs, nosocomial infection, disinfection and disposal and management of contaminated clinical waste, sterilization and the correct use of autoclaves and environmental monitoring. We would draw the readers attention to the comments made in respect of Internal Medicine.

Subject: PATHOPHYSIOLOGY

Year of studies: III

Lectures: 15 hours

Exercises: 45 hours

The purpose of lectures

The explanation of the essential of mechanisms which causes the functional disorders of an organism that leads to an affection, or that which is the result of an illness.

Topics of lectures

1. The health and illness. Fever.
2. The pathophysiology of the endocrine system. Its influence on alteration in oral cavity.
3. The mechanism of the inflammatory processes. The inflammation and pain.
4. The connective tissue. The disorders of the healing process in particular compliance with the alterations in oral cavity.
5. The disorders of the water-electrolytes and acid-base balance.
6. The pathophysiology of kidneys in particular compliance with the alterations of the ionic balance (the calcium-phosphatic balance).
7. The pathophysiology of the circulation.

Topics of exercises

1. Experimental with animals. The procedure of the basic animal manipulation.
2. The neurohormonic regulation - the pathophysiology of endocrine system (part I)
3. The neurohormonic regulation - the pathophysiology of endocrine system (part II)
The general adaptational reaction of the organisms.
The stress reaction of the rat.
4. The effect of the pathogenic factors: physical and chemical.
Avitaminosies, hypoalimentaries - their influence on the alterations in oral cavity.
The local influence of the corrosive toxins on the tissue of the frog tongue.
5. The mechanisms of the inflammatory reaction in particular compliance with the alterations in oral cavity. The inflammatory reaction on the frog mesentry.
The burn as a model of the vessels permeability.
6. The test.
7. The pathophysiology of the liver. Jaundites.
8. The disorders of the water-electrolytes and acid-base balance.
The influence of the ionic disorders on the alterations in oral cavity.
9. The pathophysiology of the circulation system.
Epinephrine and arrhythmiae.
The pathogenesis of shock.
10. The pathophysiology of the respiratory system.
11. The credit.

Method of credit: exam (written or oral).

Visitors' Comments

The theoretical content of the course is well balanced, although it is very substantial. The Visitors recommend a reduction in the volume of material and detail. Specifically, the time allocated to exercises can be significantly reduced, as many of them are not of major importance for the comprehension of the necessary knowledge. There is some overlap with other subjects e.g. Endocrinology. Among the positive features noted were: well-equipped

laboratories and a high level of research. The Visitors recommend merging the courses on Pathophysiology, Pathomorphology and Pathology into a single course, reducing unnecessary detail and freeing up time, which could be devoted to clinical dentistry. We draw the readers attention to the comments made in respect of internal medicine.

Subject: PATHOMORPHOLOGY

Year of studies: III

Lectures: 45 hours

Seminars: 12 hours

Practice in histopathology: 32 hours

Practice in autopsy: 6 hours

Topics of lectures

- 1 - 2. Hemodynamic disorders
- 3 - 5. Cellular atrophy, injury and cellular death
- 6 - 7. Hypertrophy, hyperplasia and neoplasia
- 8 - 9. Unspecific inflammations
- 10 - 11. Specific inflammations and AIDS
12. Patomorphology of the heart and blood vesels
13. Pathomorphology of the respiratory system
- 14 -15. Pathomorphology of the gastrointestinal tract
- 16 -17. Pathomorphology of the kidney, lower urinary tract and female genital tract
18. Pathomorphology of the nervous system
19. Pathomorphology of the endocrine system and hemopoietic system
20. Pathomorphology of the skin
21. Disturbances in tooth development. Caries
22. Pathology of the pulp
23. Pathology of the periapical area. Paradontosis.
24. Lesions of the oral mucosa
25. Infections diseases of the oral cavity
26. Disorders of the tongue
27. Diseases of the salivary glands
28. Oral aspects of nutrition
29. Disorders of the jaw bones.
30. Neoplasms in the oral cavity

Topics of seminars

1. Hemodynamic disorders and regressive changes
2. Progressive changes and neoplasia
3. Inflammation, some parasitologic diseases and AIDS
4. Pathomorphology of the heart, blood vesels and respiratory system
5. Pathomorphology of the kidney and lower urinary tract
6. Pathomorphology of the gastrointestinal tract, skin, thyroid gland, nervous system and female genital tract
7. Caries, pathology of the pulp, of the pariapical area, lesions of the oral mucosa and disorders of the tongue
8. Disorders of the jaw bones. Diseases of the salivary glands. Neoplasms in the oral cavity

Topics of practice in autopsy

1. Legal regulation of autopsy. Autopsy
2. Most frequently causes of death. Macroscopic picture of organs in these cases.

Topics of practice in histopathology

- 1 –3. Hemodynamic disorders and regressive changes
4. Seminar nr 1
5. Progressive changes
- 6 -7. Tumors
8. Seminar nr 2
- 9 -10. Inflammation and parasitological diseases
11. Seminar nr 3
- 12 -13. Pathomorphology of the heart, blood vessels and respiratory system
14. Seminar nr 4
15. Pathomorphology of the kidney and lower urinary tract
16. Seminar nr 5
17. Pathomorphology of the gastrointestinal tract
18. Pathomorphology of the thyroid gland and skin
19. Pathomorphology of the nervous system and female genital tract
20. Seminar nr 6
21. Caries, pathology of the pulp, odontogenic cysts
22. Gingiva and lesions of the oral mucosa
23. Pathology of the tongue
24. Seminar nr 7
- 25-26. Diseases of the salivary glands
27. Disorders of the jaw bones and sinusitis
28. Neoplasms in the oral cavity
29. Seminar nr 8
30. Review of microscopic sections before practical exam

Method of credit: practical exam (microscopic diagnosis) and theoretical written exam.

Visitors Comments

Please refer to the comments in respect of Pathophysiology above and Internal Medicine in an earlier part of the Report

Subject: PARASITOLOGY AND MYCOLOGY**Year of studies: III****Lectures: 8 hours****Exercises: 27 hours****The aim of teaching**

Providing data on:

- relationships in host/parasite (fungus) systems,
- species of parasites and fungi inhabiting particular organ ontocenoses, especially the oral cavity,
- Protozoa, Platyhelminthes, Nematoda, Arthropoda and fungi – important pathogens of human diseases.

Topics of lectures

1. Epidemiological data about parasitic and fungal diseases in the aspect of the socially significant “disease of the contemporary world”, and in relation to their role in the immunodeficiency syndromes.
2. Parasites and fungi as part of the oral cavity ontocenosis; the oral cavity as an entry of invasion.
3. Clinical manifestations of fungal and protozoal infestation of the oral cavity: trichomonosis, candidosis, trichomonosis complicated by mycosis.
4. Pathogenicity features of parasites and fungi.
5. General data on the evaluation of parasitic and fungal sensitivity to chemical agents, with regard to drugs (antiparasitics, antimycotics), used in the oral cavity infections.

Topics of exercises

1. Parasites and fungi in the oral cavity ontocenosis.
2. Parasites and fungi in the ontocenoses of the digestive tract.
3. Parasites and fungi found in the respiratory system.
4. Parasites and fungi found in the nervous system.
5. Parasites and fungi found in parenchymal organs and muscles.
6. Parasites and fungi found in blood.
7. Parasites and fungi in the ontocenoses of the urinary and genital organs.
8. Parasites and fungi infesting the skin.
9. Sensitivity of selected parasites and fungi to drugs (determining curves of activity, estimating CL₅₀ or MIC).

Method of credit: written test in winter examinational session.**Visitors' Comments**

Microbiology, Parasitology and Mycology, and Infectious Diseases are essentially all contained within the overall discipline of Microbiology. It would be very helpful if these courses could be rationalized and integrated into a single course, concentrating on microbial diseases of importance to dentistry. More emphasis should be placed on cross-infection control and good cross-infection control practice in dentistry. Topics of particular importance include, HIV/AIDS, Hepatitis viruses, Herpes group viruses, vaccination, antimicrobial drugs, nosocomial infection, disinfection and disposal and management of contaminated clinical waste, sterilization and the correct use of autoclaves and environmental monitoring.

We would draw the readers attention to the comments made in respect of Internal Medicine.

Subject: MEDICAL PSYCHOLOGY

Year of studies: III

Seminars: 21 hours

The classes comprise seven three-hour and they finish in written test

Topics of seminars

1. The basic mental processes which guide the patient's behaviour.
2. The influence of stress and difficult situations on the mental condition of a patient.
3. The rules of communication between the docto and the patient – Part I.
4. The rules of communication between the docto and the patient – Part II, practical.
5. The influence of somatic disease on the mental condition of a patient.
6. The influence of the wrong conduct of a doctor on the mental condition of a patient.
7. Psychological problems in Denistry – the expectations of a dentist's patient:
 - the expectations of a dentist's patient,
 - the problem of fear and anxiety of a dentist's patient,
 - the pain and the psychological methods of its abatement.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

This course seems orientated towards the doctor/patient relationship rather than the particular problems of clinical dentistry and although there is overlap it is very important to cover the unique problems of the dentist/patient relationship. The comments made in respect of internal diseases are also applicable here.

Subject: PAEDIATRIC DENTISTRY

Year of studies: III

Exercises: 6 hours

Psychostomatology

Topics of lectures

1. Principles of work organisation and equipment of the dental office for children.
2. Personality of the paedodontist.
3. Selected problems of child's psychology. Patients' typology. Analysis of causes of fear against dental treatment (iatrogenic factors)
4. Child's adaptation to dental treatment. Simple psychotherapeutic procedures.

Topics of exercises

Child's first visit to the dental office:

History-taking of the child based on the conversation with its mother, the first contact with the child, an attempt to win it's the child's confidence. Evaluation of child's intelligence and fear. Showing the child the dental office and other patients.

On the dental chair: demonstration of the dental instruments, air syringe, insertion of cotton rolls, performing a simple prophylactic procedure.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

This must be seen as one of the innovative courses and might also include the psychosocial aspects of adult care. The same problem arises in respect of the need for integration of courses. This problem would be overcome if instead of setting out topic headings, the school might decide on educational objectives many of them common the different courses taught.

Subject: PRE-CLINICAL DENTISTRY

Year: III

Simulation exercises: 30 hours

Topics of exercises

1. Basis of ergonomics. Part I.
2. Basis of ergonomics. Part II.
3. Basis of ergonomics. Part III.
4. Basis of ergonomics. Part IV.
5. Methods of pain control during dental procedures. Part I.
6. Methods of pain control during dental procedures. Part II.
7. Methods of keeping the operational field dry. Part I.
8. Methods of keeping the operational field dry. Part II.
9. Practical procedure (Class I restoration in the phantom tooth) - working with the acquired ergonomic skills.
10. Assessment of the student.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

The school placed considerable emphasis on these aspects of clinical dentistry on the basis that student must be seen to be competent in these aspects before treating patients. The visitors argued in favor of the need for more experience in providing comprehensive patient care that cannot be satisfactorily gained in the laboratory.

Subject: CONSERVATIVE DENTISTRY**Year of studies: III****Lectures: 20 hours****Simulation exercises: 50 hours****Clinical classes: 50 hours***Topics of lectures*

1. Contemporary concepts on endodontics.
2. Hard dental tissues caries and its effect on the pulp.
3. Principles of endodontic management considering anatomical and topographical anomalies of pulp cavities.
4. Periapical tissue diseases. Diagnosis and treatment.
5. Contemporary methods of root canal instrumentation.
6. Contemporary methods of root canal obturation.
7. Problems of contemporary dental prevention in adults.
8. Diagnosis and treatment of endo-perio changes.
9. Dental examination of the patient and treatment planning.
10. Pain control in conservative dentistry.

*Topics of exercises and clinical classes***Simulation exercises**

The main subject of the exercises: signs and symptoms, diagnosis and treatment of pulp and periapical tissue diseases.

1. Reversible pulpopathies.

- without pulp exposure - indirect pulp capping
- with pulp exposure - direct pulp capping
- vital pulpotomy

Indications and contraindications. Medicaments and materials used.

2. Irreversible pulpopathies.

- Vital pulpectomy
- Mortal pulpectomy

Indications and contraindications. Dental instruments, medicaments and materials used in endodontic treatment.

3. Pulp necrosis. Antiseptic treatment. Indications and contraindications. Technique of root canal instrumentation, antiseptics used.
4. Acute and chronic apical periodontitis. Indications and contraindications. Treatment methods.
5. Tooth bleaching following endodontic treatment.

Clinical classes

1. Introduction into clinical classes. Rules of patients' admission to the Department of Conservative Dentistry.
2. Principles of ergonomic work.
3. Examination of the patient and treatment planning, patient's charting.
4. Selected indices evaluating oral state and hygiene.
5. Additional examination of the pulp and periodontal ligament.
6. Methods of operation field protection from saliva contamination (rubber dam).
7. Treatment of simple caries.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

The visitors were not able to observe students carrying this fundamental aspect of their dental training because of the timing of the visit when most students were on vacation. The Executive Summary comments on the concerns about the level of clinical competence gained by students prior to graduation. Please refer to the comments on this subject in Year 4 as well as the comments made in respect of periodontology that can be found on the next page.

Subject: PERIODONTOLOGY AND ORAL PATHOLOGY

Year of studies: III

Pre-clinical exercises: 10 hours

1. Dental deposits: structure, formation, mechanism of action.
Examination and detection of dental calculus.
Examination of a gingival pocket.
2. Types of periodontal instruments, recognition.
Methods of using different periodontal instruments.
3. Elimination of dental calculus - hand and ultrasonic methods.
Procedures performed on phantom anterior teeth.
4. Hand and ultrasonic methods of dental calculus elimination.
Procedures performed on phantom premolars and molars.
5. Sharpening of periodontal instruments. Methods.
Assessment of students.

Method of credit: teacher's approval and signature in the student's registration book

Visitor' Comments

The Visitors felt that it would be more beneficial if students were required to complete a number of full treatments for patients, including the maintenance and follow up stages. These treatments should include a number of patients with gingivitis and periodontitis at different stages. We would strongly commend the integration of student Training in periodontology with their treatments in conservative dentistry and prosthodontics. In all of these areas we would commend a review as to how student competence is measured on completion of their program. Students would benefit if these subject areas were learned through sound clinical experience gained while treating patients in a comprehensive manner.

Subject: ORTHODONTICS**Year of studies: III****Exercises: 15 hours*****Topics of exercises on phantoms***

1. Face topography
Border lines and elements of face
Proportions of face
2. Introduction to orthodontic diagnostics
Angle classification
Biometric field
Cephalometric planes
3. Polish orthodontic diagnostics
Types of malocclusions in phantoms
4. Orthodontic impressions – spatial characteristics
Diagnosis of central occlusion
5. Analysis of models of dental arches

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

As in many schools undergraduates were not expected to develop clinical competences in orthodontics; rather to assist in diagnosis and assist in the delivery of care by specialists. This well run department might benefit if it were to more clearly articulate what it expected students to be capable of doing on completion of the course. The relationship between Orthodontics and Paediatric dentistry is to be encouraged and further developed.

Subject: PROSTHETIC DENTISTRY**Year: III****Exercises: 75 hours*****Topics of exercises***

The student should be familiar with all the problems of the prosthetic treatment with fixed dentures.

Practical requirements

During the course the student should acquire the skills of preparing abutment crowns on the phantom model and the ability of modelling:

1. Intracoronal restorations (inlay, onlay, overlay)
2. Post and core restorations
3. Full veneer metal crowns
4. All-ceramic crowns
5. Metal-ceramic crowns
6. Temporary crowns (protective)
7. Fixed bridges

Exercises include the following problems:

1. Objectives of prosthodontic treatment. Classification of partially dentate mouths. Types of dentures.
2. Fabrication of intracoronal restorations (inlays, onlays overlays).
3. Fabrication of post and core restorations.
4. Fabrication of full veneer metal crowns.
5. Fabrication of all-ceramic crowns.
6. Fabrication of metal-acrylic crowns, metal-ceramic crowns, metal-composite crowns.
7. Fabrication of temporary protective crowns.
8. Fabrication of fixed bridges.
9. Fabrication of resin bonded bridges and splints.
10. Oral hygiene of fixed appliance wearers.

Method of credit: evaluation of manual works and tests throughout the course and the final assessment checking the knowledge acquired by the student at the exercises.

Visitors' Comments

Although this course lists an extensive range of advanced procedures we were advised that students generally might only complete on crown before graduation. This could be symptomatic of insufficient emphasis on students gaining more experience in treating patients in a crowded curriculum

Subject : PHYSICAL EDUCATION

Year of studies: III

Exercises: 30 hours

Students chose the kind of classes and the time.

Visitors' Comments

See earlier comments under "PHYSICAL EDUCATION"

YEAR 4**Subject: INTERNAL DISEASES****Year of studies: IV****Lectures: 30 hours****Exercises: 60 hours****Topics of lectures****1. Pulmonary diseases (Respiratory tract diseases)**

Diagnostic methods

Upper respiratory tract diseases

Chronic obstructive diseases

Chronic bronchitis and emphysema

Bronchial asthma

Restrictive diffusive block diseases

Pulmonary circulation alterations – cor pulmonale

Bronchiectases; pulmonary abscess

Diseases of pleura and mediastinum

Pneumonia

Neoplasm of lung

Respiratory failure – management

2. Gastrointestinal diseases

Approach to the patient with gastrointestinal diseases

Oral cavity diseases

Peptic ulcer

Stomach cancer

Diseases of small intestine

Diseases of large intestine

3. Liver, gall bladder and biliary ducts diseases

Diagnostics methods

Hepatic cirrhosis

Neoplasm of liver and biliary ducts

4. Diseases of pancreas**5. Diseases of urinary tract**

Examination of renal function

Chronic renal failure

Acute renal failure

Urinary tract obstruction

Pyelonephritis and urinary tract infection

Acute and chronic glomerulitis

Nephritic syndrome

Urinary tract neoplasm

6. Joint disease

Approach to the patient with joint disease

Rheumatoidal arthritis

Osteoarthritis

7. Connective tissue disease

Periartheritis nodosa

Systemic lupus erythematosus

Scleroderma

8. Assessment of radiological examination, USG, CT**9. Assessment of lab – test of blood and urine****10. Rules of therapeutic approach****Topics of exercises**

1. Training in history taking and physical examination.
2. Management of patients under supervision of doctor – teacher.
3. Interpretation of basic laboratory tests.
4. Training in ordering treatment, receipt prescription, diagnostic plan.
5. Colloquium.

Method of credit: examination.

Visitors Comments

Once again we would stress the importance of prioritizing what is asked of the students to learn. It seemed very unusual to the visitors that the areas covered in this course should be taught at this late stage into the curriculum. There is over-loading of the curriculum in the medical subjects, in both content and detail. This is more relevant to medical doctors and there is far too much memorizing of irrelevant detail. Courses in the medical sciences are very intensive and in-depth, with considerable theoretical detail and extensive practical exercises. The Visitors were of the opinion that these courses should be rationalized by concentrating on topics of particular relevance to dentistry, by removing excessive detail and by integrating. Dental students need particular exposure to clinical medicine if they are to be competent in managing and/or recognizing the sick patient and ensuring that the treatment provided does not have deleterious consequences for the patient. This is approached in a theoretical manner that is inappropriate in our view. . The Visitors got the impression that many courses that essentially had been designed for future medical practitioners were being taken by dental students. This is understandable and far more convenient for teachers because it obviates the need and inconvenience to address the specific needs of dental or stomatological students. This comment will recur throughout this report. In the time available for a visit it would not be possible to detail those areas which could be eliminated or reduced. That is a matter for the faculty in the Dental Institute to debate and agree with their medical and science colleagues who teach their stomatology students. It is an issue that needs to be addressed and resolved if the dental curriculum in Lodz is to be given an overall direction with agreed educational aims, objectives, outcomes and stated competences that students must achieve. This is not to lose sight of their need for stomatologists to have competence in the subjects covered by “human diseases” but there must be a context and considerable rationalization of priorities.

Subject: SURGERY*Year of studies: IV***Lectures: 10 hours****Exercises: 18 hours****Topics of lectures**

1. Diseases of the biliary system.
2. Acute diseases of the abdominal cavity - part I.
3. Acute diseases of the abdominal cavity - part II.
4. Emergency first aid (principles of resuscitation).
5. Tumours (symptoms and signs, diagnosis).

Topics of exercises

1. Principal symptoms and signs in surgical diseases of the digestive system.
 - 1.1. Abdominal pain (its diagnostic value, visceral pain, somatic pain).
 - 1.2. Vomiting (its diagnostic value)
 - 1.3. Difficulty in swallowing.
 - 1.4. Disturbances of the passage of faeces and of gas.
 - 1.5. Bleeding into the lumen of the alimentary canal.
 - 1.6. Peritoneal signs.
 - 1.7. Tumours in the abdominal cavity (differentiation).
 - 1.8. Enlargement of the abdomen.
2. The methods used in the diagnosis of surgical diseases of the digestive system.
 - 2.1. History taking (general principles of interrogation).
 - 2.2. Physical examination (general principles)
 - 2.3. Physical examination of the liver, gall-bladder, spleen, kidney, urinary bladder.
 - 2.4. The presence of gas in the free peritoneal cavity.
 - 2.5. Auscultation of the abdomen (diagnostic significance)
 - 2.6. Diagnosis and causes of ascites.
 - 2.7. General principles of rectal examination.
 - 2.8. Accessory investigations:
 - radiological examination
 - contrast examinations of the gastro-intestinal tract
 - ultrasound scanning, computed tomography, magnetic resonance imaging,
 - endoscopic examinations,
 - biopsy and cytological examinations.
3. Injuries - symptoms and signs, diagnosis, principles of management.
 - 3.1. Head injuries (brain concussion, haematoma)
 - 3.2. Trunk injuries (fractures of the ribs, surgical emphysema)
 - 3.3. Traumata of the spine (causes, symptoms and signs, Schanz collar)
 - 3.4. Traumata of the limbs (dislocations, fractures, principles of immobilization)
 - 3.5. Injuries of the abdominal cavity.
- 4. Acute and chronic arterial ischaemia.**
 - 4.1. Arterial embolism and thrombus.
 - 4.2. Pathology and diagnosis of acute arterial ischaemia.

4.3. Causes of acute and chronic ischaemia of the lower limbs.

4.4. Diagnostic investigations (radiology, vascular ultrasound).

5. Surgical diseases of the veins.

5.1. Thrombotic inflammation of the superficial and deep veins.

5.2. Varicose veins of the lower limbs - complications (ulceration)

5.3. Diagnostic investigations (functional tests, radiology, ultrasound).

6. Diseases of the stomach and duodenum.

6.1. Symptoms and signs, diagnosis (diagnostic methods, the presence of bacteria)

6.2. Principles of management and complications:

- haemorrhage
- perforation
- pyloric stenosis
- cancer.

Method of credit: examination.

Visitors' Comments

See previous comments on internal medicine above in the preceding section. This course should not be found in the 4th Year in our opinion

Subject: PEDIATRY

Year of studies: IV

Lectures: 15 hours

Exercises: 45 hours

1. Detailed history taking and physical examination
2. Development of a child with special attention to the process of eruption of teeth and various factors affecting chewing organ disorders: feeding, drugs administration, rickets.
3. Preventive vaccination, infectious diseases prevention and risk of communicable diseases at the dentists
4. Most frequent stomatological problems connected with various diseases in children concerning:
 - **hemopoietic** system – anaemia, systemic diseases, hemorrhagic diathesis,
 - **circulatory system** – congenital heart defects, circulatory insufficiency, hypertension and syncope,
 - **urinary system.**

Remaining hours (40%) are devoted to other issues in pediatry – most frequent problems in small children – diseases of the respiratory and alimentary tracts, allergy and selected issues in rheumatology in childhood.

Topics of lectures

1. Selected issues in physiopathology of neonates.
2. Congenital heart defects.
3. Arrhythmias in children.
4. Pneumonia in neonates and small children.
5. Infectious diseases in childhood

6. Selected issues in rheumatology in childhood.

Topics of exercises

1. Physical and psychomotorical development of a child.
2. Feeding of neonates: natural, artificial and eliminating diets
3. Vaccination and most frequent infectious diseases in children
4. Physical and clinical examination in children with congenital heart defects.
5. Congenital heart defects in children.
6. Diseases of the heart muscle and cardiomyopathies – diagnosis and treatment.
7. Arrhythmias and syncope.
8. Heart failure – clinical symptoms and management.
9. Hemorrhagic diathesis in children.
10. Anaemia and leukaemia in childhood.
11. Urinary tract infections.
12. Hypertension in children.
13. Infectious diseases of respiratory tract.
14. Rickets and tetany.
15. Jaundice – physiological and pathological in small children.

Method of credit: examination.

Visitors' Comments

Visitors Comments

The same comments apply here as for internal medicine above. This course would seem to be essentially designed for the medical rather than a dental practitioner. It should be reduced, rationalized and integrated with human diseases.

Subject: INFECTIOUS DISEASES

Year of studies: IV

Lectures: 10 hours

Exercises: 20 hours

Topics of lectures

1. Viral hepatitis, chronic hepatitis, liver cirrhosis
2. Meningitis
3. Exanthematic diseases of infancy and childhood
4. AIDS
5. Infectious lesions in the mouth and throat
6. Botulism; tetanus, erysipelas and other wound infections
7. Prophylaxis of the blood-borne infections in medical units
8. Differential diagnosis of the jaundice
9. Infectious food poisoning, dysentery
10. Sera and vaccines used in the infectious diseases. Serum sickness

Topic of exercises

1. Viral hepatitis
2. Chronic hepatitis and liver cirrhosis

3. Differential diagnosis of the jaundice
4. Purulent and lymphocytic meningitis
5. Infectious food poisoning, dysentery, botulism
6. Tetanus
7. Erysipelas
8. Shingles
9. HIV infection and AIDS
10. Malaria
11. Infectious diseases of infancy and childhood
12. Inflammatory lesions in the throat in the course of infectious diseases
13. Prophylactic use of antibiotics prior to surgery in stomatology
14. Sera and vaccines used as prophylaxis and treatment of infectious diseases

Method of credit: colloquium.

Visitors' Comments

See comments above under "Microbiology".

Subject: OPHTHALMOLOGY

Year of studies: IV

Exercises: 15 hours

1. Anatomy and physiology of the visual system.
2. Optical system of the eye.
Refractive defects. Examination of visual acuity.
3. Examination of the anterior segment of the eye.
Conjunctivitis and keratitis. Glaucoma. Cataract. .
Uveitis.
4. Examination of the posterior segment of the eye.
Central retinal artery occlusion.
Central retinal vein thrombosis.
Retinal detachment.
5. Emergency ophthalmic cases.
Role of focal infections in pathogenesis of ocular diseases.
Ophthalmology surgery.
Credit of the exercises.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

Despite the theoretical content of this course the Visitors noted that eye effective protection was not always used by students or provided for patients. The Visitors considered that this course should focus on eye protection, eye protection procedures, and emergency eye treatment following accidental trauma in the dental surgery as might be relevant to a dental practitioner.

We draw the readers attention to the comments made in respect of Internal Medicine above

Subject: ONCOLOGY**Year of studies: IV****Exercises: 15 hours****Topics of exercises**

1. The organisation of the oncological health care, emphasizing the epidemiological, etiological and diagnostics issues.
2. The significance of the screening and early cancer detection.
3. Local and site-specific signs and symptoms of the cancer.
4. Pathology and clinical course of oral cancer, neoplasms of the salivary glands, thyroid, larynx and odontogenic tumors.
5. Therapy of the human cancer.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

We suggest the integration of this course with the human diseases and only the prioritised aspects included as might be required for a dental practitioner. Please refer to the comments on Internal diseases

Subject: HYGIENE AND EPIDEMIOLOGY**Year of studies: IV****Lectures: 9 hours****Exercises: 31 hours****Topics of lectures**

1. Criteria of epidemiologic assessment of the health status of the population. Contemporary human health threats of biological pathogenes; the mechanisms of etiopathogeneses, diagnostics and prevention methods of infections in medical care system. Dentist's office as a potential link in an epidemiologic chain.
2. Health care promotion conducted by a dental surgeon.
3. The epidemiologic assessment of oral cavity health status as a criterion of dental care functioning system.

Topics of exercises

1. Hygiene of developmental age with special stress on dental prevention.
2. Promotion of pro-health behaviour in children - kindergarten practice.

3. Harmful factors in working environment and their influence on stomatognathic system, dentists' occupational diseases.
4. The influence of air, water and soil quality on health status.
5. Health consequences of anthropogenic environmental changes in Poland. Elements of environmental epidemiology.
6. Principles of rational nutrition. Standards and assessment of nutrition of the individual and of the population.
7. Health threats relating to food quality.
8. Diet modification in selected diseases of modern civilization.
9. Nutrition role in etiopathogenesis and course of caries and other dental diseases.
10. Credit examination.

Method of credit: written test.

Visitors' Comments

The visitors would include whatever aspects of this course are required for dentists with their course on public health dentistry and/or prevention and eliminate those aspects which are irrelevant.

Subject: ETHICS AND MEDICAL DEONTOLOGY

Year: IV

Lectures: 30 hours

Exercises: 30 hours

Topics of lectures

1. Morality and ethics.
2. Problem of moral progress of humankind.
3. Ancient Greek philosophy.
 4. Ethical thought of ancient Greece and its links with philosophy of that time.
5. Metaphysical model of being in Christian philosophy.
6. Ethics of existential Thomism.
7. Ethics of Catholic personalism and natural law's ethics.
8. Destruction of metaphysical model of being.
9. Kant's autonomic ethics of duty.
 10. Hedonistic utilitarianism of John Stuart Mill.
 11. Albert Schweitzer's ethics of reverence for life.
 12. Ecological ethics.
 13. Man and death - historical evolution of attitudes.
 14. Man and death - present state.
 15. Recapitulation of lectures.

Topics of exercises

1. Introduction to medical ethics.
2. Basic ethical attitudes.
3. Notion of dignity.
4. Patient as a person.
5. Principle of totality.
6. Birth. Moral problems concerning abortion and treatment of terminally ill newborn infants.

7. Moral dilemmas of death and dying.
8. Moral problems accompanying transplantation.
9. Medical experiment.
10. Moral problems of choice. Patient and scarce medical resources.
11. Moral issues regarding organisation of health care.
12. Analysis of medical deontological documents.
13. Ethical analysis of selected cases from dental practice.
14. Discussion of ethical problems which students find especially interesting.
15. Recapitulation of classes.

Syllabus for history of philosophy

Topics of lectures

1. Philosophy as a science and an outlook on life.
2. The origin of European philosophy.
3. The acme of Greek metaphysics: Plato and Aristotle.
4. God, human being and the universe in St. Augustine's philosophy.
5. Cartesian turn in modern philosophy.
6. Kant's epistemology.
7. Introduction to philosophy of history.
8. Culture and individual – Freud's account.
9. Freedom and responsibility – existentialistic account.
10. Recapitulation of lectures.

Topics of exercises

1. Theory of truth.
 2. Cognitive and practical functions of philosophy.
 3. Problem of evil – a philosophical account.
 4. Truth and good in metaphysical philosophy.
 5. Problem of evil – a mythological account.
 6. Freedom in philosophical model of being.
 7. Good and truth in non-metaphysical philosophy.
 8. Evil and suffering. Illness as metaphor.
 9. Philosophical models of the universe.
 10. Evil and suffering. Ontological and functional models of illness.
 11. Philosophical introduction to ecological ethics.
12. Progress as a philosophical category. Utopia of the universe free from illness.
 13. Illness and death. Introduction to thanatology.
 14. Philosophical problems of death and dying.
 15. Recapitulation of classes.

Method of credit: examination.

Visitors' Comments

This course might be reduced and prioritized for practicing dentists with a community awareness. It could also be covered earlier in the course.

Subject: DYSFUNCTION OF OROMANDIBULAR SYSTEM**Year of studies: IV****Exercises: 32 hours****Topics of exercises****I. A. Theoretical part:**

Centric and excentric occlusion. Intra- and extraoral analysis of the occlusion.

B. Clinical part:

Impressions of upper and lower dental arches.

II. A. Theoretical part:

Retruded contact position of the mandible and maximal intercuspation. Physiological and pathological slide of the mandible. Registration methods of retruded occlusal position of the mandible.

B. Clinical part:

Registration of retruded contact position of the mandible on a wax bite and mounting models on a semiadjustable articulator.

III. A. Theoretical part:

Central position of the mandible. Methods of its registration. Excentric position of the mandible and methods of its registration.

B. Clinical part:

Intraoral registration of the central position of the mandible in the Gerber system.

IV. A. Theoretical part:

Characteristic features of temporomandibular joints and their examination. Dysfunction and displacement of the disk. Disk locking and its clinical signs.

The concept of 'three joints' in mobility of the masticatory system. The role of local and psychogenic factors inducing oromandibular dysfunction.

B. Clinical part:

Medical and dental history and the examination of the patient concerning dysfunction of the oromandibular system.

V. A. Theoretical part:

Clinical examination of the masticatory system and adjacent muscles. Occlusal and nonocclusal parafunctions.

Additional examinations: radiological and electromyographic.

B. Practical part:

Clinical examination of the masticatory and adjacent muscles. Presentation of the effects of performed parafunctions on the diagnostic casts.

Introduction to the method of waxing-up occlusal surfaces of the teeth by addition of different colour wax dots.

VI. A. Theoretical part:

Adjustment of central occlusion. Methods of tooth grinding. Indications and contraindications. Adjustment of the excentric occlusion. Methods of tooth grinding. Indications and contraindications.

B. Practical part:

Analysis of occlusion in the Condylator according to Lauritzen split cast method.

Analysis of premature contacts on the models of students' own dentition in the Condylator.

Waxing-up method by addition of wax dots. Part I.

VII. A. Theoretic part:

Headaches as a sign of the oromandibular dysfunction. Causes and signs and symptoms. Additional methods of oromandibular dysfunction treatment. Part I

- occlusal splints: types, indications for treatment.
- exercises and massages.

B. Practical part:

Preparation of wax occlusal splint.

Premature contact analysis on casts of students' own dentition in the Condylator.

Waxing-up method by addition of wax dots. Part II.

VIII. A. Theoretical part:

Additional methods of oromandibular dysfunction treatment - part II

Physiotherapy and pharmacology.

Orthodontic and prosthodontic treatment.

B. Practical part:

Treatment planning in individual cases of oromandibular dysfunction.

Analysis of the chosen cases on the diagnostic casts.

Waxing-up method by addition of wax dots - part III.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

There is considerable emphasis on this aspect of patient. The potential for research in this area must be significant given the relationship that exists with the neurophysiologists

Subject: CONSERVATIVE DENTISTRY

Year of studies: IV

Lectures: 10 hours

Exercises: 120 hours

Topics of lectures

1. Pulp protection and adhesion to the dentine.
2. Lasers in dentistry.
3. Dental trauma and methods of treatment.
4. Tooth resorption.
5. Conservative treatment in elderly patients.

Topics of exercises

1. Examination of the patient and treatment planning.
2. Examination of the pulp and periodontal ligament response.
3. Caries prevention.
4. Differential diagnosis of simple caries.
5. Specificity of deep caries treatment.
6. Medicaments and materials used in the treatment of simple caries.
7. Causes of pulpitis.
8. Acute and chronic pulpitis - clinical signs and histopathological state.
9. Dental pulp diseases - regressive and progressive changes.

10. Contemporary classification of pulp diseases.
11. Treatment of pulpopathy - biological and mortal methods.
12. Mistakes in the treatment of complicated caries.
13. Pulp necrosis and gangrene - clinical signs and biochemical changes in the pulp.
14. Antiseptic treatment.
15. Acute and chronic apical periodontitis - clinical signs, histopathological and radiographic pictures.
16. Treatment of acute and chronic apical periodontitis.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors Comments:

This was also a well organised department with an enthusiastic group of staff with obviously good leadership and example.. Because of the timing of the visit we did not have an opportunity to observe many students carrying out treatment for patients. We observed treatments being carried by members of the faculty to a high standard. We were advised that students did not gain sufficient practical experience and that would seem inevitable because of the distribution of time in the curriculum.

We would stress the advantages to both students and staff if there was a clear statements as to what competences each student should achieve on completion of the course.

The cleanliness of the clinics was exemplary.

We commend the staff of this department for the commitment to excellence and reccomend that students gain more practical clinical experience in this department and integrated with periodontology and prosthetic dentistry.

Subject: ORAL SURGERY

Year of studies: IV

Lectures: 8 hours

Exercises: 150 hours

During the first semester the classes are conducted on phantoms and in patients.
During the second semester classes consist in dealing with patients.

Topics of lectures

1. Complications during and after removal of teeth.
2. Diseases of maxillary sinuses – surgical management.
3. Perimaxillary inflammations, differentiation, management.
4. Procedure in patients with systemic diseases, requiring oral surgery.

Topics of exercises

1. Examination of the patient. Instruments.
2. Examination of the patient. Instruments. Teeth removal methods.
3. Examination of the patient. Instruments. Teeth removal methods.
4. The anatomy of branches II and III of the trigeminal nerve.
5. Local anaesthesia and their action. Complications following local anaesthesia.

6. General and local indications and contraindications for removal of teeth. Complications during and after removal of teeth.
7. Proper healing of alveolus. Post-extraction bleeding. Dry socket. Diagnostics and management.
8. Topography of interfascial spaces of face and neck: temporal, subtemporal, orbital, infraorbital, parotid-masseteric, submandibular, submental, pterygoido-mandibular, peripharyngeal, floor of the oral cavity. Causes of abscesses and phlegmons, Diagnostics and management.
9. Viva voce in practice and theory.
10. Dental root resection. Indications and contraindications, study of procedure.
11. Oro-sinus junctions and fistulas. Diagnostics and management.
12. Mandibular luxations and fractures – clinical, picture, diagnostics. Methods of orthopaedic and surgical treatment.
13. Maxillary fractures-diagnostics, methods of orthopaedic and surgical treatment
14. Facial wounds-principles of treatment. Types of surgical sutures.
15. Viva voce in practice and theory
16. First aid: faintings, acute circulation insufficiency, shock, allergies.
17. Periodontitis and periostitis-symptoms, differentiation, treatment.
18. Maxillary ostitis-clinic, differentiation, treatment.
19. Peculiarity of clinical picture of diseases in oral surgery in children and their management.
20. Retention of teeth-diagnostics and treatment. Indications and contraindications for removal of retarded teeth and their roots. Disturbed eruption of the lower third molar-clinic and treatment.
21. Viva voce.
22. Odontogenic cysts –clinic. Differentiation and treatment.
23. Pre-cancer states. Oncological prophylaxis in dentistry.
24. Radiology in diagnostics of facial skull's diseases.
25. Salivary glands diseases-selected issues (acute and chronic sialadenitis, sialolithiasis).
26. Pregnancy and tooth removal. Procedure in patients with systemic diseases, requiring oral surgery.
27. AIDS prophylaxis.
28. Lasers in oral surgery.
29. Getting patients ready to oral surgery-sending to a consultation and examination, type of examination, antihepatitis vaccination.
30. Credit

Method of credit: oral or written.

Visitors Comments

On the basis of what we saw in the curriculum document students appeared to have been given sufficient experience in oral surgery. However it was not possible to observe students carrying out basic oral surgical procedures although we confident that there is no lack of clinical training material in view of the levels of dental disease around Lodz. There were extensive procedures carried out in the Maxillfacial unit. The visitors were very impressed with the dedication of staff in this unit to delivery of extensive and complex treatments. The teaching potential from this are is considerable.

Subject: PAEDIATRIC DENTISTRY

Year of studies: IV

Exercises: 62 hours**Topics of exercises****Term 1**

1. Dental examination of the child. Charting. Assessment of caries progression. Treatment planning.
2. Evaluation of oral hygiene and dietary habits. OHI, CPITN indices. Analysis of risk factors in caries progression. Implementation of positive behavioural attitudes concerning health.
3. Morphological features of the child's dentition.
Physiology and pathology of deciduous and permanent tooth development.
Tooth age.
4. Professional methods of caries prevention.
5. Deciduous tooth caries. Etiology. Diagnosis, treatment.

Term 2

1. Deciduous tooth pulp disease. Examination, diagnosis.
2. Treatment of deciduous tooth pulp disease.
3. Signs and symptoms, diagnosis and caries treatment of permanent teeth at the developmental age.
4. Pulp disease of permanent immature teeth. Diagnosis. General principles of treatment.
5. Traumatic injuries to the teeth. Treatment. Treatment planning. First-aid in emergency.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

This seemed to be a very well organised department with an enthusiastic group of staff lead by the Dean of the School. It seemed a department of international standing. Because of the timing of the visit we did not have an opportunity to observe many students carrying out treatment for patients. We observed treatments being carried by members of the faculty to a high standard. It is difficult to make overall judgements of the type of care provided in the course of a single visit but it seemed that there was less use of local anaesthesia than might be the case in the schools represented by the visitors.

We would stress the advantages to both students and staff if there was a clear statements to what competences each student should achieve on completion of the course.

The cleanliness of the clinics was exemplary.

We commend the staff of this department for the commitment to excellence. Subject:

ORTHODONTICS**Year of studies: IV****Exercises: 21 hours****Clinical practice: 24 hours****Topics of exercises**

1. Repetition encompassing knowledge on:
Face topography
Border lines and elements of face

Proportions of face
 Angle classification
 Biometric field
 Cephalometric planes
 2. Polish orthodontic diagnostics
 Types of malocclusions - spatial characteristics
 Diagnosis of malocclusions in phantoms and patients
 3. Techniques of making impressions in orthodontic clinics
 4. Introduction to early treatment of malocclusions
 Grinding of cusps in primary teeth
 Miotherapy
 5. Analysis of models of dental arches
 6,7. Description of construction and principles of function of selected appliances:
 Oral shield - adjustment on a model
 Occipital-pull chin cup - adjustment on a model
 Mandibular inclined plane - adjustment on a model
 Modelling of mandibular inclined plane in wax
 Making of occipital-pull chin cup

Topics of clinical practice

1. Preparation of oral cavity of a patient with malocclusion for orthodontic prophylaxy and treatment.
 First visit of the patient - principles of oral hygiene (movie).
 2. Regular development of organs in oral cavity in newborns, infants, and children at the nursery age.
 3. Regular development of organs in oral cavity in children nursery school and school age.
 4. Concept of occlusion standard.
 Definition of malocclusion.
 Spatial relations in oral cavity as basis for diagnostics of malocclusion.
 5. Orthodontic prophylactic examination (movie).
 Assignment to treatment groups – principles.
 - 6,7,8 Principles of prevention of malocclusions.
 Exercises at nursery school and at school.
 Principles of treatment based on "simple" methods.
- Method of credit:** oral verification.

Visitors Comments

The structure, organization and standards in orthodontics reflected modern practice in all facets in a well run clinical department with good leadership and enthusiastic staffing. Students competences were not clearly defined so the visitors were not certain as to what the average graduate was capable of on completion of the course in respect of patient care.

Subject: PROSTHETIC DENTISTRY

Year of studies: IV

Lectures: 10 hours

Exercises: 120 hours

Topics of lectures

1. Preparation of the oral cavity for prosthodontic treatment.
2. Methods of tooth grinding for prosthetic appliances.
3. Impression materials and methods and types of working casts used for fixed denture fabrication.
4. Types and methods of dental crown restorations.
5. Prophylaxis in prosthodontics.

Clinical classes

Fifteen sessions are conducted in the summer term in the clinical unit. The subject of the classes comprises the problems of prosthodontic treatment paying special attention to the schemes of clinical management. Students perform, under the supervision of the teaching staff members, different stages of clinical treatment in selected patients requiring prosthodontic therapy. Students should be theoretically prepared to the classes and present the design of prosthodontic appliances and treatment planning of the given patient.

Assessment of the student at the end of term 2 is based on:

1. Assessment of all the classes,
2. Final rating concerning the problems of prosthetic dentistry discussed during the third and fourth years of the studies.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors Comments

This department covers a wide range of clinical training from dentures to crown and bridge treatments. It seemed a well organized and staffed department. However due to the fact that most students were on vacation we could not satisfactorily observe the standards of care of the average patient nor could we say what the average student was capable of doing on completion of the course. We were given to understand that most students would be unlike to complete more than one or two crowns. This would be a matter for concern unless there was a structured system of deciding competence in student abilities. We recommend closer integration with periodontology and conservative dentistry in an integrated Restorative Section or Department.

Subject: PERIODONTOLOGY AND ORAL PATHOLOGY

Year of studies: IV

Exercises: 60 hours

Topics of exercises

1. Revision of information on physiology, morphology and anatomy of the periodontium and oral hygiene.
 - Getting to know:
 - a) methodology of the classes
 - b) apparatuses and equipment in the Department
 - c) admission of patients

- Treatment of patients
2. Seminar
Etiopathogenesis of periodontal diseases.
 - a) role of local factors
 - b) role of systemic factors.
- Mechanism of pathogenesis of different periodontopathies.
Treatment of patients
3. Seminar
Clinical and radiological signs of periodontal diseases.
Treatment of patients.
 4. Seminar
Diagnosis of periodontopathies
Treatment of patients.
 5. Seminar
Oromandibular dysfunction.
Treatment of patients.
 6. Seminar
Conservative and physical treatment of periodontal diseases.
Treatment of patients
 7. Seminar
Surgical treatment of periodontal diseases - gingival surgery.
Treatment of patients.
 8. Seminar
Surgical treatment of periodontal diseases - plastic surgery.
Treatment of patients.
 9. Seminar.
Implants in the treatment of periodontal diseases.
Treatment of patients.
 10. Seminar.
Prosthetic and orthodontic treatment.
Treatment of patients.
 11. Seminar.
Planning of prophylaxis and treatment.
Treatment of patients.
 12. Treatment of patients.
 13. Treatment of patients.
Treatment of patients.
Assessment of the student
Etiopathogenesis, diagnosis and complex treatment of periodontal diseases.

Number of completed dental procedures required from the students:
24 scaling procedures
1 occlusal adjustment

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

See previous comments above under " PERIODONTOLOGY".

Subject: DENTAL RADIOLOGY**Year of studies: IV****Lectures: 6 hours****Classes: 24 hours***Topics of lectures***Session 1**

1. Physical basis of radiology
 - formation of X-ray radiation
 - absorption of X-ray radiation
 - properties of X-ray radiation.
2. Films, cassettes and intensifying screens.
3. Film processing and fixing in the conventional dark-room.

Session 2

1. Principles of taking intraoral radiographs.
2. Radiological anatomy of teeth and tissues.
3. Assistance while taking radiographs.

Session 3

1. Principles of taking extraoral radiographs in dentistry. Part I - radiographs of the mandible and the sinuses.
2. Radiological anatomy of the facial skeleton in the tomographs and plain films.
3. Assistance while taking radiographs.

Session 4

1. Principles of taking extraoral radiographs. Part II – panthomographs, temporo-mandibular joint pictures.
2. Radiological anatomy of the temporo-mandibular joint.
3. Assistance while taking radiographs.

Session 5

1. Artefacts produced on taking X-rays.
2. Computer tomography, isotopic examinations, USG, termography.
3. Assistance while taking X-rays.

Session 6

Assessment of the student.

Subjects of the lectures on Dental Radiology for Year IV

1. Algorithm of radiological examinations in pathological states of the facial part of the skeleton.
2. Radiological changes of the facial part of the skeleton in systemic diseases.
3. New radiological techniques used for diagnosing the facial part of the skeleton.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

The standards of radiography were high in the evidence we saw of dental radiographs. It was impressive that strides had been made to digitise dental radiographs. Although the

department was not large for the size of the student population it was deemed to be sufficient by the faculty. The Visitors wondered if there were to be a more concentrated effort to give greater experience to students in patient care whether the demands on radiography would test the system currently available. The extent of practical skills development needs to be emphasized. The Visitors recommend that opportunities be developed to ensure that students obtain sufficient practical instruction in basic dental radiographic technique to fulfill the requirements of dental practice.

Among the positive features noted were:

- The subject appears to be well planned.
- The equipment is very modern.
- The range of diagnostic equipment and the necessary material for teaching radiological diagnosis is readily available.
- Particular emphasis is placed on radiation protection measures in clinical practice.

Subject : PHYSICAL EDUCATION

Year of studies: IV

Exercises: 30 hours

Students chose the kind of classes and the time.

Visitors' Comments

See Visitors' comments above under "PHYSICAL EDUCATION".

YEAR 5

Subject: ANAESTHESIOLOGY AND INTENSIVE THERAPY

Year of studies: V

Seminars: 5 hours

Manual training: 5 hours

Topics of seminars

- I. Cardiopulmonary resuscitation [CPR].
 1. Causes and mechanism of cardiac and pulmonary arrest.
 2. Standards and guidelines for resuscitation.
 - obstructed airway management
 - basic life support
 - adjunctive equipment for ventilation and airway control
 - electrical and drug therapy
 - evaluation of CPR efficiency
 3. CPR in infants and children.
 4. Special consideration in CPR in pregnancy
 5. Postresuscitation care.
- II. Life - threatening disturbances - warning signs, treatment.
 1. Angina pectoris, myocardial infarction.
 2. Life-threatening arrhythmia.
 3. Anaphylactic shock.
 4. Foreign-body airway obstruction.
 5. Convulsive state.

Topics of manual training

1. Recognition of cardiac and pulmonary arrest.
2. Management of the obstructed airway.
 - use of adjuncts : oropharyngeal and nasopharyngeal airways
 - suction devices
 - Heimlich manoeuvre
 - intubation
3. Artificial ventilation
 - mouth- to- nose ventilation
 - mouth -to- mouth ventilation
 - use of face masks
 - bag-valve ventilation
4. External chest compression.
5. ECG based evaluation of cardiac arrest mechanism
 - ventricular fibrillation
 - asystole
 - electromechanical dissociation
6. Defibrillation technique.
7. Routes of administration of resuscitation drugs.
 - intravenous
 - intratracheal
 - intracardiac

8. Stabilisation of the patients condition for transportation
9. Cardiac monitoring and recognition of arrhythmia.
10. Synchronous cardioversion.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

This course should be introduced much earlier in the curriculum. In many of these courses, which seem to be designed essentially for future medical practitioners rather than dentists or stomatologists, there is an excessive amount of detail and material that is not a priority for a future dentist. Of course the dentist also requires competence in anaesthesia in order to appreciate their limitations. Some of the material in this course is central to preparing the dentist to cope with medical emergencies which might arise in a dentist's surgery. These courses are at an inappropriate time and would be better taught at an earlier stage in the curriculum. This time would be better spent at this time of their training in gaining more experience and competence in clinical dentistry. This comment will be found to be repeated at the end of many of the courses on medical subjects in the final year. We also draw the readers attention to the comments made in respect of Internal Medicine in Years 3 and 4 which essentially make the same points

Subject: ENDOCRINOLOGY

Year of studies: V

Exercises: 15 hours

1. Epidemiology of thyroid diseases in Poland, non-toxic goitre, hyperthyroidism and its various clinical forms, thyroid crisis, hypothyroidism, thyroiditis, thyroid tumours, stomatological procedures performed in patients with thyroid pathology.
2. Disturbances in the calcium-phosphatic metabolism, hyperparathyroidism, hypoparathyroidism, osteoporosis and other types of osteopenia, effects of disturbances in the calcium-phosphatic metabolism on dentition.
3. Acute life risks in endocrinology: thyroid crisis, hypometabolic coma, hypercalcemic crisis, acute tetany, adrenal crisis, hypertensive crisis, types of diabetic comas, acute de- or overhydration.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

In many of these courses, which seem to be designed essentially for future medical practitioners rather than dentists or stomatologists, there is an excessive amount of detail and material that is not a priority for a future dentist. Of course the dentist also requires competence in general medicine (including medical emergencies which might arise in a dentist's surgery), general surgery and general pathology. However such competence might better be achieved in a single programme on human diseases. These courses are at an inappropriate time and would be better taught at an earlier stage in the curriculum. This time would be better spent at this time of their training in gaining more experience and competence in clinical dentistry. This comment will be found to be repeated at the end of many of the courses on medical subjects in the final year. We also draw the readers

attention to the comments made in respect of Internal Medicine in Years 3 and 4 which essentially make the same points

**Subject: PHYSIOLOGY OF PREGNANCY LABOUR
AND PUERPERIUM**

Year of studies: V

Lectures: 15 hours

First day

menstrual cycle
fertilisation and implantation
changes in pregnant woman organism
optimal conditions for the foetus development
and the course of pregnancy

Second day

placenta and its role
protective
hormonal
nutritive
placental transport

Third day

foetus development
normal
hypotrophy
clinical examination usg and others

Fourth day

examinations performed during pregnancy and their interpretation
and importance for management with pregnant woman
pregnant woman nourishment
focal infections importance (teeth, tonsils, sinuses)

Fifth day

normal labour and puerperium
mature newborn

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

In many of these courses, which seem to be designed essentially for future medical practitioners rather than dentists or stomatologists, there is an excessive amount of detail and material that is not a priority for a future dentist. Of course the dentist also requires competence in general medicine (including medical emergencies which might arise in a dentist's surgery), general surgery and general pathology. However such competence might better be achieved in a single programme on human diseases. These courses are at an inappropriate time and would be better taught at an earlier stage in the curriculum. This time would be better spent at this time of their training in gaining more experience and competence in clinical dentistry. This comment will be found to be repeated at the end of

many of the courses on medical subjects in the final year. We also draw the readers attention to the comments made in respect of Internal Medicine in Years 3 and 4 which essentially make the same points. This course is generally irrelevant to students needs.

Subject: MEDICINE OF DISASTERS

Year of studies: V

Lectures: 22 hours

Exercises: 38 hours

I. Organization

1. General views of the medical care organization during disasters.
2. Constriction of the plane of the medical coverage of natural and men-made disasters.

II. Psychology

1. Psychology of victims of disasters.
2. Panic and crowd reaction.
3. Psychology of life-savers.
4. Ethics and disasters.

III. Phases of rescue operation

1. First phase – chance to survive.
2. Second phase – first aid, segregation.
3. Third phase – evacuation, transport, admission to hospital and further hospital treatment

IV. Medical Segregation

1. Definition and types of segregation.
2. Medical segregation in natural and man-made disasters.
3. Priorities and ethics in medicine of disasters
4. Preparation and realisation of segregation.

V. First aid

1. Unconscious and wounded man- general care.
2. General care of injuries.
3. Medical cover during simulated disaster and cooperation with emergency medical service and fire-brigade. Demonstration of medical rescue equipment and fire-control.
4. Management of menacing of physical and chemical factors

VI. Epidemiology

1. Epidemiological menacing in the place of disaster. Interdisciplinary cooperation among departments for epidemiological cover in the place of disaster.
2. Plan of epidemiological cover in the place of disaster.

VII. Principles of country's defences

1. Selected issues of the International Law. The Geneva Conventions.
2. The Law of Common Obligation of Defence of Poland
3. Functions and structure of the Civil Defence in Poland

VIII. National Health Service in the system of country's defences

1. Structure and functions of provincial and regional health service during armed conflicts and disasters.

2. Organisation of out- patient and in- patient clinics- increase of number of hospital beds during armed conflicts and disasters.
3. Movable units of health service in civil defence
4. Principles of medico- sanitary provision of the Health Service during armed conflicts and disasters.

IX. Radiation sickness

X. Toxicology

1. Type of chemical weapons- menacing of intoxication, treatment.
2. Chemical poisoning- medical care.

XI. Ecology

1. Effects of environmental pollution on the humane health and evolution.
2. Civilisation diseases.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

In many of these courses, which seem to be designed essentially for future medical practitioners rather than dentists or stomatologists, there is an excessive amount of detail and material that is not a priority for a future dentist. Of course the dentist also requires competence in general medicine (including medical emergencies which might arise in a dentist's surgery), general surgery and general pathology. However such competence might better be achieved in a single programme on human diseases. These courses are at an inappropriate time and would be better taught at an earlier stage in the curriculum. This time would be better spent at this time of their training in gaining more experience and competence in clinical dentistry. This comment will be found to be repeated at the end of many of the courses on medical subjects in the final year. We also draw the readers attention to the comments made in respect of Internal Medicine in Years 3 and 4 which essentially make the same points

Subject: FORENSIC MEDICINE
Year of studies: V
Exercises: 15 hours

Topics of exercises

1. Introduction: Forensic Medicine – a short characteristic of the subject and its basic branches.
The medico-legal problems in dentistry.
2. Selected elements of thanatology.
Presence at a medico-legal autopsy.
3. Chosen problems of medico-legal alcoholology.
Examination and assessment of trace evidence.
4. Forensic evaluation and classification of injuries.
Articles of the penal code referring to injuries and rules of their classification considering particular injuries of the masticatory organ.
5. Report upon a medico-legal examination. Opinion.
Presence at a medico-legal examination.

Method of credit: oral examination and signature in the student's registration book.

Visitors' Comments

This course should be redesigned to emphasize forensic odontology rather than the less relevant general aspect of forensic medicine (except where relevant to a dentist). In many of these courses, which seem to be designed essentially for future medical practitioners rather than dentists or stomatologists, there is an excessive amount of detail and material that is not a priority for a future dentist. Of course the dentist also requires competence in general medicine (including medical emergencies which might arise in a dentist's surgery), general surgery and general pathology. However such competence might better be achieved in a single programme on human diseases. These courses are at an inappropriate time and would be better taught at an earlier stage in the curriculum. This time would be better spent at this time of their training in gaining more experience and competence in clinical dentistry. This comment will be found to be repeated at the end of many of the courses on medical subjects in the final year. We also draw the readers attention to the comments made in respect of Internal Medicine in Years 3 and 4 which essentially make the same points.

Subject: SOCIAL MEDICINE**Year of studies: V****Exercises: 50 hours**

1. Public health - the sense and area of public health
2. Goals and function of modern medical care
3. The modern programmes and the new health's strategies
4. The National Health Programme
5. The system of medical care
6. Organization of medical care in Poland. Part I
7. Organization of medical care in Poland. Part II
8. Primary medical care in Poland
9. Law in medicine
10. Organization of dental care in Poland
11. Caries as a social disease
12. Organization of dental care for children and young men
13. Dental practice in Poland

Method of credit: examination.**Visitors' Comments**

In many of these courses, which seem to be designed essentially for future medical practitioners rather than dentists or stomatologists, there is an excessive amount of detail and material that is not a priority for a future dentist. Of course the dentist also requires competence in general medicine (including medical emergencies which might arise in a dentist's surgery), general surgery and general pathology. However such competence might better be achieved in a single programme on human diseases. These courses are at an inappropriate time and would be better taught at an earlier stage in the curriculum. This time would be better spent at this time of their training in gaining more experience and competence in clinical dentistry. This comment will be found to be repeated at the end of many of the courses on medical subjects in the final year. We also draw the readers attention to the comments made in respect of Internal Medicine in Years 3 and 4 which essentially make the same points.

Subject: NEUROLOGY**Year of studies: V****Exercises: 32 hours****Topics of exercises**

1. Clerking.
2. Physical examination of the patient - examination of the pyramidal system, peripheral motor neurone. Most frequent diseases of the peripheral motor neurone (arm neuralgia, sciatic neuralgia, myasthenia, diabetic neuropathy, Guillain-Barre syndrome).
3. Physical examination of the patient - examination of the pyramidal system, central motor neurone, most frequent diseases of the central motor neurone (cerebrovascular disease, brain tumours).
4. Physical examination of the patient - examination of the extrapyramidal system. Chorea, Parkinson's disease.
5. Physical examination of the patient - examination of the cerebellar and sensory systems. Vertigo and dizziness, multiple sclerosis.
6. Headache and facial pain (migraine, tension -type headache, chronic paroxysmal hemicrania, cluster headache, atypical facial pain, idiopathic neuralgia of V and IX nerves).
7. Epilepsy, inflammation of cavernous sinus, subarachnoid haemorrhage.
8. Craniocerebral trauma, electrophysiological diagnostics.

Method of credit: oral interview (questioning) examination and signature in the student's registration book.

Visitors' Comments

In many of these courses, which seem to be designed essentially for future medical practitioners rather than dentists or stomatologists, there is an excessive amount of detail and material that is not a priority for a future dentist. Of course the dentist also requires competence in general medicine (including medical emergencies which might arise in a dentist's surgery), general surgery and general pathology. However such competence might better be achieved in a single programme on human diseases. These courses are at an inappropriate time and would be better taught at an earlier stage in the curriculum. This time would be better spent at this time of their training in gaining more experience and competence in clinical dentistry. This comment will be found to be repeated at the end of many of the courses on medical subjects in the final year. We also draw the readers attention to the comments made in respect of Internal Medicine in Years 3 and 4 which essentially make the same points.

Subject: OTOLARYNGOLOGY

Year of studies: V

Lectures: 15 hours**Exercises: 30 hours***Topics of lectures*

1. Paranasal sinusitis and their treatments
2. Diseases of the pharynx
3. Epistaxis and its treatments
4. Injuries in otorhinolaryngology
5. Diseases of the larynx
6. Cancer of the larynx and their treatments
7. Hearing lesions and modern possibilities of their treatment

Topics of exercises

Before the exercises students should review anatomy and physiology of the nose and the paranasal sinuses, the pharynx and the ears.

1. Establishing the exercises scheme. The place of the otorhinolaryngology in modern medicine. Basic rules of laryngological examination and usage of laryngological tools. Demonstrations of different methods of laryngological examination (by using front mirror, Miodonski's lamp and Clare's lamp). The oral cavity, the pharynx and the salivary glands examination (patients' medical history, techniques of examinations the patency of natural ostium of salivary gland and presentation of gustometry). Learning of examination methods on models.
2. Methods of the nose and the paranasal sinuses examination (taking patients' medical history, examination techniques with regard to patency of the nose and the olfactory examination) and endoscopy of the nasal cavities.
3. Learning of single-handed examination of the oral cavity, the pharynx, the nose and the paranasal sinuses. Accessory examination: diaphanoscopy, radiological and laboratory investigations.
4. Larynx examination with regard to direct and indirect laryngoscopy, taking samples for laboratory investigations (biopsy specimens and swab), radiological and ultrasonographic investigations of the larynx.
5. Revision of anatomy and physiology of external, middle and inner ear; discussion about basic and modern theories of hearing. Ear examination: using pneumatic Siegl's speculum (or endoscopy) otoscopy, otovideoscopy and patency of hearing tubes examination.
6. Examination of hearing. Revision of basic rules of the acoustics. Hearing examination by the whisper, speak and reed test. Presentation of tympanometry, BERA and acoustic otoemission.
7. Presentation of basic knowledge of balance system, static and dynamic tests and nystagmus recording methods. Electronystagmography. Learning of basic vestibules tests.
8. Presentation of basic diseases of the nose and the paranasal sinuses (diseases of nose skin, acute and chronic inflammatory diseases, neoplasms with regard to diagnostics, differentiation and treatment). The students examination procedures of the patients in the ENT Department.
9. Presentation of the chosen diseases of the oral cavity, the pharynx and the salivary glands with regard to diseases of the lymphoid ring and salivary glands. The students examination procedures of the patients in the ENT Department (angina, peritonsillar abscess, state after tonsillectomy).

10. Presentation of the chosen diseases of the larynx with regard to acute and chronic diseases and neoplasm (diagnostics, treatment, prevention). The students examination procedures of the patients in the ENT Department (larynx cancer, state after laryngectomy). Presentation of videolaryngoscopy.
11. Tracheotomy, conicotomy – indication to the operation, techniques of manipulation, complications (in the operation theatre). Tracheobronchoscopy, esophagoscopy.
12. Presentation of the chosen diseases of the external, middle and inner ear and complications during middle ear inflammation. Presentation of the diagnostic procedure of intracranial complication of ear origin. The students examination procedures of the patients in the ENT Department.
13. Exercises in the operation theatre, presentation and observation of the performed operations (tracheotomy, tonsillectomy, radical operation of the maxillary sinuses, nasal septum operation).
14. Round in the Clinic. Presentation of the chosen patients and with laryngological diseases.
15. Revision of theoretic and practical learning.

Method of credit: oral examination.

Visitors' Comments

In many of these courses, which seem to be designed essentially for future medical practitioners rather than dentists or stomatologists, there is an excessive amount of detail and material that is not a priority for a future dentist. Of course the dentist also requires competence in general medicine (including medical emergencies which might arise in a dentist's surgery), general surgery and general pathology. However such competence might better be achieved in a single programme on human diseases. These courses are at an inappropriate time and would be better taught at an earlier stage in the curriculum. This time would be better spent at this time of their training in gaining more experience and competence in clinical dentistry. This comment will be found to be repeated at the end of many of the courses on medical subjects in the final year. We also draw the readers attention to the comments made in respect of Internal Medicine in Years 3 and 4 which essentially make the same points.

Subject: PSYCHIATRY

Year of studies: V

Lectures: 7 hours

Exercises: 8 hours

Topics of lectures

1. Schizophrenia and other psychosis.
2. Affective disorders.
3. Anxiety disorders.
4. Somatophorm disorders.
5. Organic mental disorders.
6. Mental retardation.
7. Treatment with patient with mental disorders.

Topics of exercises

1. Contact with patient with mental disorders

2. Clinical interview patient with mental disorders
3. Treatment with patient with anxiety
4. Pharmacotherapy of mental disorders

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

In many of these courses, which seem to be designed essentially for future medical practitioners rather than dentists or stomatologists, there is an excessive amount of detail and material that is not a priority for a future dentist. Of course the dentist also requires competence in general medicine (including medical emergencies which might arise in a dentist's surgery), general surgery and general pathology. However such competence might better be achieved in a single programme on human diseases. These courses are at an inappropriate time and would be better taught at an earlier stage in the curriculum. This time would be better spent at this time of their training in gaining more experience and competence in clinical dentistry. This comment will be found to be repeated at the end of many of the courses on medical subjects in the final year. We also draw the readers attention to the comments made in respect of Internal Medicine in Years 3 and 4 which essentially make the same points.

Subject: DERMATOLOGY

Year of studies: V

Lectures: 12 hours

Exercises: 18 hours

1. Structure and function of the skin and mucous membranes. Skin lesions and their definitions. Purulent skin diseases (erysipelas, furunculosis, impetigo contagiosa). Scabies.
2. Sexually transmitted diseases (lues, gonorrhoea, NGU).
3. Erythema multiforme, Stevens-Johnson syndrome, Lyell syndrome and other drug-induced reactions observed in the stomatological practice.
4. Systemic and discoid lupus erythematosus. Bolls skin diseases with lesions on the mucous membranes. Dermatological syndromes connected with teeth malformation.
5. Basal cell carcinoma and squamous cell carcinoma. Acne vulgaris and rosacea. Dermatological treatment with emphasis on lesions on the mucous membranes. Colloquium.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

In many of these courses, which seem to be designed essentially for future medical practitioners rather than dentists or stomatologists, there is an excessive amount of detail and material that is not a priority for a future dentist. Of course the dentist also requires competence in general medicine (including medical emergencies which might arise in a dentist's surgery), general surgery and general pathology. However such competence might better be achieved in a single programme on human diseases. These courses are at an inappropriate time and would be better taught at an earlier stage in the curriculum. This time

would be better spent at this time of their training in gaining more experience and competence in clinical dentistry. This comment will be found to be repeated at the end of many of the courses on medical subjects in the final year. We also draw the readers attention to the comments made in respect of Internal Medicine in Years 3 and 4 which essentially make the same points.

Subject: CONSERVATIVE DENTISTRY

Year of studies: V

Exercises: 90 hours

Topics of exercises

1. Principles of the ergonomic work in dentistry.
2. Dental examination.
3. Evaluation of oral hygiene.
4. Dental prevention.
5. Additional dental examination.
6. Making the diagnosis.
7. Dental management in the patients with systemic diseases.
8. Planning of complex and conservative treatment.
9. Methods of carious lesion detection.
10. Analysis of occlusion.
11. Elimination of dentine sensitivity.
12. Preparation and restoration of all types of cavities (carious and non-carious)
13. With different restorative materials.
14. Treatment of root caries.
15. Methods of pain control in conservative dentistry.
16. Management of the patient allergic to dental medicaments.
17. Ability of making the diagnosis and undertaking endodontic treatment.
18. Biological treatment of the pulp.
19. Biological treatment of periapical tissues.
20. Mortal methods of pulp diseases treatment.
21. Management in case of complications following pulp devitalization.
22. Methods of tooth length measurement.
23. Biomechanical instrumentation of root canals.
24. Methods of root canal disinfection.
25. Techniques of root canal obturation.
26. Different management in the treatment of elderly patients.
27. Management in endodontic emergency.
28. Management in cases of external and internal resorption.
29. Conservative-surgical endodontic treatment.
30. Management in endo-perio changes.
31. Management in case of tooth subluxation and dislocation.
32. Management in case of fractured crown.
33. Endodontic management of immature teeth.
34. Management in endodontic complications.
35. Endodontic retreatment
36. Aesthetic dentistry.
37. Bleaching of teeth with the vital pulp and after endodontic treatment
38. Sterilisation of dental instruments.

Method of credit: practical and theoretical examination.

Visitors' Comments

Although the visitors did not have ample opportunity to see the students carry out the procedures listed above, it was evident from discussion that the students would benefit from more time in clinical practice. It is not possible to give an informed judgement on the experience gained by an average student in conservative dentistry but one had to express a certain disquiet on the competences of students in this fundamental aspect of dental education. Once again the visitors would stress the importance of translating time spent in the medical and biological subjects compared to that in gaining practical skills in clinical dentistry. It would be of enormous value if the school were to agree what competence every student should achieve prior to graduation so that priorities in an integrated curriculum might be agreed.

Subject: ORAL SURGERY

Year of studies: V

Lectures: 8 hours

Exercises: 160 hours

Topics of lectures

1. Neoplasms of oral cavity and the jaws.
2. Inflammatory processes and the malignant tumours.
3. Maxillary traumatology.
4. Facialo-maxillo-occlusal deformities.

Topics of exercises

1. Examination of the patient. Instruments. Teeth removal methods.
2. First aid in acute circulatory insufficiency, shock and allergies. The most frequently used medicines in out-patient clinic.
3. Differentiation of acute periodontitis, periostitis and ostitis.
4. Chronic ostitis – symptoms, treatment. Lymph nodes-topography, the specific and nonspecific inflammations.
5. Neuralgia of the trigeminal nerve-etiology, symptoms, treatment. Management following the opening of the maxillary sinus.
6. Differentiation of radical and follicular cysts from other lesions. Resection of the radical apex of tooth – technique of operation.
7. Viva voce.
8. Mandibular luxation-symptoms, management. Mandibular fractures – clinic and treatment.
9. Maxillary fractures-lines of fracture, symptoms, treatment.
10. Orthopaedic treatment of fractures. The inter dental splints, ligatures-splinting on phantoms and in patients.
11. Surgery in patients with systemic diseases : of haematopoeitic system , circulatory s. and rheumatic disease, diabetes, epilepsy.
 12. Preparations in oral cavity prior to prosthetics.
 13. Prophylaxis against viral hepatitis and AIDS in operating room.
 14. Seminar.
 15. Viva voce.

Themes of clinical classes

1. Perimaxillary inflammations.
2. Etiology, pathogenesis, topography, symptoms and treatment of abscesses and phlegmons. The abscess and the phlegmon of the maxillary fossa, the temporal, subtemporal, buccal and orbital regions.
3. Etiology, pathogenesis, topography, symptoms and treatment of abscesses and phlegmons. The abscess and the phlegmon of the parotid-masseteric, submandibular, submental, retromandibular, pterygo-mandibular, peripharyngeal regions and the floor of the oral cavity.
4. The actinomycosis of face and neck-symptoms, treatment.
5. Surgical treatment of sialolithiasis.
6. Surgical treatment of maxillary sinuses-indications, technique of operation and differentiative diagnostics.
7. The contraction, ankylosis and arthropaties of TMJ-symptoms, surgical treatment.
8. Viva voce.
9. The benign neoplasms of the facial skull-clinic and treatment.
10. Odontogenic neoplasms – diagnostics and treatment.
11. Anticancer struggle. The malignant neoplasms of the facial skull-clinical manifestations, diagnostics and treatment. The combined treatment- postradiation lesions.
12. Surgical treatment of midfacial and mandibular fractures.
13. Cleft lip and palate – etiology, diagnostics, team approach, principles of surgical treatment.
14. Congenital maxillary and mandibular defects (mandibular prognathism, maxillary prognathism, mandibular retrognathism, maxillary retrognathism, mandibular retardation, mandibular deviation) - diagnostics, team approach, principles of surgical treatment.
15. Test prior to credit.

Method of credit: practice exam and oral exam.

Visitors Comments

The Visitors got a good insight in the teaching program after meeting with the staff of the Department of Oral and Maxillofacial Surgery and were particularly impressed with the quality of learning opportunities and facilities offered by the outpatient clinic of the Department of Oral Surgery.

Among the positive features noted were:

- The program covers all the topics necessary for undergraduate education and the International Guidelines have been taken into account*
 - The reinforcement of theoretical knowledge before the beginning of practical work*
 - Students gain considerable experience in Oral and Maxillofacial Surgery*
 - Special facilities for radiological investigation, including CT-MRI and ultrasonography are available*
 - Active research*
- Issues for the further consideration:*
- The Visitors would like to see an increase in scientific collaboration between the Departments of Basic Sciences and vertical integration*
 - Encourage student involvement in research projects*

Subject: PAEDIATRIC DENTISTRY

Year of studies: V

Seminars: 12 hours

Exercises: 51 hours

Topics of lectures

8. Pathology of dental development. Abnormal dentition. Dental anomalies. Defective development of hard dental tissues. Disease syndromes associated with developmental anomalies of dentition.
9. Contemporary concepts on caries etiopathogenesis and prevention. Importance of fluoride in caries prevention.
10. Endodontic treatment of deciduous and permanent teeth at the developmental age.
11. Traumatic injuries to deciduous and permanent teeth at the developmental age. Examination. Diagnosis. Treatment.

Topics of seminars

12. Time of dental mineralization and resorption formation.
13. Caries prevention with fluorine compounds. Tablet doses. Toxic aspects of fluoride application.
14. Medicaments and materials used in caries treatment at the developmental age.
15. Diagnosis and treatment of pulp and periapical tissues diseases in children.
16. Classification of dental traumatic injuries. Treatment.
17. Oral pathological changes in the course of certain paediatric diseases.
18. Assessment of the child's dental history.

Topics of clinical classes

Each session is preceded by a short seminar on a scheduled subject.

During the classes students prepare a dental history of one child. After the completion of the classes students are rated for their dental histories of patients and take the clinical exam.

Method of credit: practical and theoretical examination.

Visitors' Comments

This seemed to be a very well organised department with an enthusiastic group of staff lead by the Dean of the School. It seemed a department of international standing. Because of the timing of the visit we did not have an opportunity to observe many students carrying out treatment for patients. We observed treatments being carried by members of the faculty to a high standard. It is difficult to make overall judgements of the type of care provided in the course of a single visit but it seemed that there was less use of local anaesthesia than might be the case in the schools represented by the visitors.

We would stress the advantages to both students and staff if there was a clear statement as to what competences each student should achieve on completion of the course.

The cleanliness of the clinics was exemplary.

We commend the staff of this department for the commitment to excellence.

Subject: ORTHODONTIC

Year of studies: V

Lectures: 10 hours

Seminars: 10 hours

Exercises – clinical practice: 12 hours

Exercises with phantoms: 45 hours

Topics of lectures

1. Short history of oral orthopedics
2. Morphology, development and growth of a facial-jaw system
3. Oral functions
4. Abnormalities in facial-occlusal system - etiology
5. Biological and biomechanical basis of transformations resulting from treatment of malocclusion

Topics of seminars

1. Orthodontic treatment in the period of primary, mixed, and permanent dentition
2. Orthodontic appliances: types, construction, and action of removable and fixed appliances

Exercises - clinical practice

1. Repetition of material studied during IV-th year
 - Topography
 - Typical features of facial-oral system during growth period
 - Demonstration of patients treated in Department of Orthodontics*
2. Polish orthodontic diagnostics
 - Functional tests
 - Demonstration of patients*
3. Patient file
 - First visit - patient suitable for early treatment
- 4,5. Clinical investigation, impressions, analysis of models, additional examinations
6. Anatomy of the facial part of skull based on analysis of roentgenograms
- 7,8. Analysis of occlusal roentgenograms and teleroentgenograms of head (seminar room)
9. Prognosis of development and growth of organs of oral cavity in the presence of patient
10. Planning of orthodontic treatment (patients suitable for early treatment of occlusal irregularities)
11. Early treatment of malocclusion. Prophylaxy (principles of oral hygiene, consistency of food, prevention of carries and its effects, procedures in case of patients with injuries of hard tissues of teeth, methods used for elimination of abnormal habits in particular of breathing with open mouth)

Exercises with phantoms

- 1,2. Orthodontic appliances:
 - Description of construction and function of Schwarz plate and of monobloc
 - Modelling of Schwarz plate with skew or straight ridge
 - Adjustment of arrowhead clasps, springs, and labial bows
 - Registration of construction bite in fantoms
 - 3,4 "Simple" methods of treatment of cross-bite and mesiocclusion
 - Grinding of primary teeth
- Required equipment and material:
- Wax, knives, and burners
 - Wires and pliers
 - Teeth and grinding stones
 - Negatoscopes and tracing paper

Exercises in orthodontics (summer semestr)

Topics

1. Examination of patients and early treatment
 - Functional tests
 - Examination of temporo-mandibulare joint (mobility)
 - Active treatment of patients assigned during winter semester
2. Files of patients in orthodontic clinic
 - Direct examination
 - Spatial analysis of dental arches (measurements according to Pont, expected length and transversal dimension of dental arches for jaw and mandible)
3. "Simple" methods of treatment of malocclusion
 - Grinding of primary teeth
 - Miotherapy
 - Appliances: occipital-pull chin cup, mandibular inclined plane
 - Forecast of development of occlusal relations
 - Orthodontic records
 - Diagnosis of malocclusion
 - Practice in prophylaxy and early treatment
4. Polish diagnostics of malocclusion
 - Principles
 - General types of malocclusion:
 - anteroposterior abnormalities
 - mediolateral abnormalities
 - vertical abnormalities
- 5,6. Methods of prophylaxy and treatment in orthodontics
 - Planning of prophylactic and therapeutic actions
 - Methods: miotherapy, induction of proper habitual behavior, grinding of primary teeth
 - Examples treatment in the case of selected malocclusions (patients from the Clinic of the department of Orthodontics)
7. Orthodonto-prosthetic treatment
 - Principles prosthetic treatment in children
 - Types of prostheses:
 - preventive prostheses
 - therapeutical prostheses
 - retention prostheses
8. Complex treatment of malocclusion in children with cleft lip and jaw
9. Complex treatment of patients with paradontopathy
10. Teeth extraction in prevention and treatment of malocclusion
11. Procedures in cases requiring complex treatment
- 12-14. Proceeding in orthodontic clinic. Admission of patients assigned during semester IX.
 - Participation in admission of patients treated in Department of Orthodontics
15. Credit
 - Credit is obtained on the basis of oral and practical examination. During practical examination student has to show his (or her) ability to:
 - inquire the first-time patient
 - perform direct examination
 - make tentative impressions
 - analyze models
 - plan orthodontic treatment

Method of credit: practical and theoretical examination.

Visitors Comments

The structure, organization and standards in orthodontics reflected modern practice in all facets in a well run clinical department with good leadership and enthusiastic staffing. Students competences were not clearly defined so the visitors were not certain as to what the average graduate was capable of on completion of the course in respect of patient care.

Subject: PERIODONTOLOGY AND ORAL PATHOLOGY

Year of studies: V

Lectures: 10 hours

Exercises: 45 hours

Topics of exercises

Session 1

Signs and symptoms of oral mucosal diseases.

Primary and secondary eruptions

Developmental anomalies

Treatment of patients

Session 2

Keratosis and precancerous states

Diagnosis and treatment.

Treatment of patients

Session 3

Oral aphthosis.

Diagnosis and treatment.

Treatment of patients

Session 4

Acute viral diseases

Diagnosis and treatment.

Treatment of patients

Session 5

Oral vesicular diseases.

Diagnosis and treatment.

Treatment of patients

Session 6

Atrophic states, stomatodynia, disorders in saliva secretion.

Diagnosis and treatment.

Treatment of patients

Session 7

AIDS and selected oral mucosal diseases.
Diagnosis and treatment.
Treatment of patients

Session 8

Clinical examination
Number of completed procedures required from the students.
18 scaling procedures
1 occlusal adjustment

Method of credit: practice exam and theoretical exam.

Visitors' Comments

See Visitors earlier comments above under the heading "PERIODONTOLOGY".

Subject : PROSTHETIC DENTISTRY**Year of studies: V****Seminars: 25 hours****Exercises: 140 hours****Topics of seminars**

1. Prosthetic stomatopathies.
2. Retention and stabilisation of complete dentures.
3. Patient management prior to preparation of dental hard tissues (physical, psychological and pharmacological).
4. Fabrication of metal ceramic crowns and bridges.
5. Ways of occlusion recording. Articulators.
6. Designing partial metal framework removable dentures.
7. Precise retention attachments in partial removable dentures.
8. Prosthetic treatment of periodontal diseases.
9. Implants.
10. Biomaterials for restoring masticatory system tissues.
11. Prosthetic treatment of temporomandibular joint diseases.
12. Prosthetic treatment following surgical procedures in the cranio-facial region (obturators, epitesis)

Topics of exercises

1. Dental history-taking and examination of a patient from prosthodontic point of view,
2. Evaluation of dental bearing area,
3. Classification of tooth losses (Kennedy and Galasinska)
4. Designing classical prosthodontic appliances taking also under consideration implant insertion.
 1. Implant insertion.
 2. Patient's management for prosthodontic treatment,
 3. Ability to take anatomical, functional and putty and wash impressions.
 4. Fabrication of working casts,
5. Recording occlusal position of the mandible:
 - a) in partially dentate patients,
 - b) in edentulous patients
6. Tooth grinding for crowns and bridges.
7. Ability to fabricate:
 - a) inlays
 - b) direct and indirect post and core restorations
 - c) temporary crowns,
 - d) acrylic crowns,
 - e) full veneer metal crowns,
- f) metal acrylic crowns, metal ceramic crowns ,metal composite crowns,
 - g) temporary bridges,
 - h) Partial mucosal-borne dentures including immediate dentures,
 - i) complete dentures,
 - j) partial metal framework removable dentures,
 - k) fabrication of clasps
 - l) repair of partial and complete dentures.

Method of credit: practical and theoretical examination.

Visitors' Comments

As in conservative dentistry the visitors did not have sufficient opportunity to see the students carry out prosthodontic treatments. It was evident that the students would benefit from more time in clinical practice in this area also. It is not possible to give an informed judgement on the experience gained by an average student in prosthetic dentistry and of particular concern was student exposure to integrated care of patients including prosthetics, conservative, preventive and periodontal treatments. Once again the visitors would stress the importance of translating time spent in the medical and biological subjects compared to that in gaining practical skills in clinical dentistry. Again the visitors emphasise that it would be of enormous value if the school were to decide what competence every student should achieve prior to graduation so that priorities in an integrated curriculum might be agreed.

Subject: DENTAL RADIOLOGY

Year of studies: V

Exercises: 30 hours

General schedule of the exercises:

Session 1

1. Principles of co-operation between the clinician and the radiologist.
2. Radiological changes in the dental and periapical tissues.
3. Reading and describing dental radiographs.

Session 2

1. Roentgenodiagnostics of the developmental age.
2. Palatal clefts.
3. Reading and describing orthopantomographs.

Session 3

1. Radiological differential criteria in periodontal diseases.
2. Sialolithiasis, radiographs, sialography.
3. Reading and describing dental radiographs.

Session 4

1. Roentgenodiagnostics of disease processes in the area of the temporo-mandibular joint.
2. Reading and describing dental radiographs.

Session 5

1. Roentgenodiagnostics of sinuses.
2. Fracture of the mandible and the maxilla on radiographs.
3. Reading and describing dental radiographs.

Session 6

1. Osseous cysts, radiographs.
2. Reading and describing dental radiographs.

Session 7

1. Benign mandibular tumours on the radiographs.
(adamantinoma, odontoma, epulis).
2. Reading and describing dental radiographs.

Session 8

1. Malignant maxillary tumours - dental radiographs.
2. Reading and describing dental radiographs.

Session 9

1. Roentgenodiagnosis of changes in specific and non-specific inflammations.
2. Reading and describing dental radiographs.

Session 10

Assessment of the student after the course.

Topics of seminars

1. Anatomy and physiology of the temporo-mandibular joint.
2. Radiographic image of the periodontal ligament in specific and non-specific inflammations.
3. Radiographic image of the periodontal ligament in tumours of the maxillary bones.
4. Fibrous dysplasia, Pagat's disease on the radiographs.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

See Visitors earlier comments above under the heading "RADIOLOGY".

Subject: JOINT CLASSES**Year of studies: V****Clinical classes: 40 hours****Objectives of the classes**

Establishment of the complex therapeutic management in dentistry.

Consolidation of principles of the ergonomic work with the assistance.

Management of the patient in relation to general dental procedures.

Discussion of the problems resulting from the performed treatment.

Assessment

Final checking of the student's acquired knowledge - treatment planning, realisation of treatment planning, ability of co-operation with the assistant, evaluation of manual abilities, work efficiency - time and reliability of the performed procedures, active participation in the seminars, attendance during the classes.

Subjects of the clinical classes

1. Communication with the patient, treatment planning and alternative methods of therapy. Patient's consent to the dental procedure, acceptance of treatment plan, charting.
2. Evaluation of patient's treatment needs according to basic indices.
3. Referring the patient for the specialised treatment.
4. Co-operation with the assistant.
5. Standards of the dental procedures
6. Differential diagnosis of acute and chronic tooth pains – reinforcement of information.
7. Evaluation of performed treatment methods, arranging of the follow-up visits.
8. Various free subjects - students' proposals - discussion in the groups.

Method of credit: teacher's approval and signature in the student's registration book.

Visitors' Comments

The visitors did not see the students perform in this area. It would seem to be of critical importance to their clinical training as dentists. Once again the visitors would stress the importance of translating time spent in the medical and biological subjects compared to that in gaining practical skills in clinical dentistry. It would be of enormous value if the school were to agree what competence every student should achieve in integrated or comprehensive patient care prior to graduation so that priorities in an integrated curriculum might be agreed.

Subject : PHYSICAL EDUCATION**Year of studies: V****Exercises: 30 hours****Visitors' Comments**

This should be an elective programme and not included as part of the curriculum

Section 17: Examinations, Assessment and Competences

1. Evaluation of students' knowledge as required by the University Regulations takes place in the form examinations and final tests. These may consist of a theoretical and (if applicable) practical part. Grades are awarded on a scale from 2 to 5, 5 representing a distinction. Students are allowed to take one examination not more than 3 times.

2. Examinations play an important role in motivating students because the best students are awarded so-called 'motivation scholarships' which height depends on the average mark.

3. Strengths

Examination session takes place after every semester (i.e. in February and June). Students are required to take exams in most subjects over the whole course rather than at the end of the final year. This system enables students to avoid excessive stress and concentrate on fewer subjects at one time.

4. Weaknesses

Lack of interdisciplinary examinations

5/6. In the future external (state) final exams are to be introduced

7. At present external examiners do not take part in the process of students assessment.

8. In order to qualify as a dentist the student pass a certain numbers of tests and examinations according to the requirements of the teaching curriculum. After the successful completion of the whole 5-year course graduates complete also one year professional training clerkship followed (from the year 2000 onwards) by a final external (state) exam. After this exam graduates may register as dentists and obtain a licence for practice from the Chamber of Physicians.

9. Teaching curriculum is increasingly compatible with the recommendation of the EU Advisory Committee on the Training of Dental Practitioners.

Visitors' Comments

The dental curriculum at Lodz is taught over two semesters a year and examinations are held at the end of each semester. We suggest spreading the examinations over the entire year, preferably after the completion of individual courses. Some students stated that passing an examination was sometimes a matter of luck. If an examination is only assessed by one teacher/examiner the outcome could be influenced by the personal opinions of the examiner. For important examinations the opinion of two independent examiners should be sought. We also recommend that examiners from other countries should be invited to participate and contribute to the process.

Section 18: Other Influences

18.1 Regional oral health needs

The results of epidemiological studies showed the state of oral health in LODZ is worse than in the other regions of our country. Clinical training of students is performed on the large number of patients.

18.2 Evidence based treatment

18.3 Involvement in other university activities and sport

The students are represented in Medical University by their organisations, which are completely independent, and self-governed by the students. The representatives of all courses at both Faculties form the Medical University Council of Students' Self-Government, the highest authority in the students' community. Its members take part in the meetings of both Faculty Council and University Senate.

The Students' Scientific Society is an organisation comprising Scientific Sections active in various clinics and teaching departments. The students willing to pursue their interests and to develop their knowledge or practical skills can work under the guidance of academic teachers in any selected field. A scientific conference during which students from whole Poland present papers and results of their research work is organised every year in June.

18.4 Recreation

Recreation and entertainment is one of the fields where the Polish Student Association is particularly active. This problem will be presented by students' representatives.

The University Sport Association of Poland with its section of handball, football, volleyball, swimming and other disciplines helps the student to preserve fitness. The popular meeting places are students' clubs situated at the campus.

18.5 Student selection procedures

Candidates are required to sit an entrance exam the same in whole Poland - multiple-choice questions in biology, chemistry and physics.

Those candidates who score the highest number of points are admitted.

18.6 Labour Market Perspectives

Graduates may undertake employment in the public or private sector.

Visitors' Comments

In the curriculum, we observed a variety of other influences, including courses in Latin, foreign language, library training, history of philosophy and physical education. The main reason put forward for Latin was to help with terminology. In our opinion, this is unnecessary.

The students impressed on us the importance and relevance of the English language for their future development and progress. We agree and consider that in the future it will be even more important. Students have to learn to prepare and give presentations in English. Furthermore, English is the language of internet communication. To become more competent in English many students take additional evening classes. We strongly recommend that the time devoted to the English language in the curriculum is substantially increased.

Although the course on philosophy seems very interesting. This course might be reduced however.

Many dentists suffer from physical problems and back ailments. The Visitors consider that although it is very good to encourage students to participate in sports and to use good ergonomic practice, physical education should be considered an extra-curricular activity.

Section 19: Students Affairs

Names of Students representatives who will discuss this

Final Year: Monika Jurczuk, group IV
 Fourth Year: Michal Lukaszewicz, group VII
 Third Year: Michal Sobanski, group VI
 Second Year: Magdalena Stec, group III

19.1 Basic Data from the Dental School

- Average number of dental students qualifying per year: 95
- Average number of dental students admitted to the first year: 103
- Length of course in year/or semester: 5years / 10 semesters
- Is there a separate period of vocational training following graduation as a dentist in your country? YES
- Is that organised by the University? Yes, partly

19.2 List different postgraduate courses

Programmes for those graduates who undertook specialisation under the previous system (prior to 1999) - in all areas: General Dentistry, Periodontology including Oral Medicine, Oral Surgery, Maxillofacial Surgery, Prosthodontics and Orthodontics.

The list of courses offered in 1999/2000 is enclosed.

Individual departments organise short courses for graduates who specialise at particular areas of Dentistry in co-operation with the Division of Continuing Postgraduate Medical Education of our University.

The Polish Dental Association Division of LODZ organises monthly meetings aiming at continuous education of dental practitioners. The staff of our Dental School actively participate in these meetings.

The Medical University organises doctoral courses lasting 4 years during which graduates prepare a doctoral dissertation.

Visitors' Comments

It was evident to the Visitors that the students are enthusiastic, devoted to their studies and highly motivated. However, participation of students in faculty matters is limited and unstructured. Active participation of students in curriculum development should be actively encouraged. Student influence would be especially beneficial in areas such as evaluation and assessment of courses. Student involvement however is handicapped by the lack of a dental students association, elected delegates from which, would be able to represent the dental in the appropriate decision making councils. In addition a students' association would be able to develop international contacts and represent the dental students of the university in all relevant discussions throughout Europe.

The development of a formal association to represent dental students should be encouraged. Membership of this association should be confined to students of dentistry. Elected delegates from the dental students should be included in all discussions regarding curriculum planning and evaluation of courses, with particular emphasis on the latter. Feedback from students should be considered a very important factor in curriculum development.

Students should be actively encouraged to participate in European student associations and international student events.

The student congress organized every two years by the Institute of Dentistry offers an excellent opportunity to attract international cooperation and contacts at a student level.

Inviting foreign students to participate in this Congress could create an international character. In addition, the faculty could support the presentation of selected works of Polish dental students to the Congress of the European or International Dental Student Associations. The publication of student essays in European Dental Student Journals should also be encouraged.

Section 20 Research

It was very evident that considerable effort has been expended in the development and expansion of research activities within the Institute of Dentistry over the last decade. Research activities have been given a high priority and all staff are expected to engage in research as part of their overall professional development within the Institute. The Visitors were impressed with the evident enthusiasm for research shown by the institute's staff.

A considerable level of collaborative research was evident between individual dental staff and colleagues from a range of other departments, including Physiology, Histology, Parasitology and Mycology, Microbiology, Pathomorphology, Immunology and Public Health-preventive and Community Dentistry. This development is to be further encouraged to take full advantage of an inter-disciplinary approach to research activities.

Funding for research is primarily from the Dental Institute or from other national sources.

Recommendations:

[1] Research within the Dental Institute would benefit from the development of an overall strategic plan for research for the entire institute [5-year plan]. This plan should focus on the present research strengths and current resources of the institute and should be realistic in outlining goals for achievement. This approach should allow the development of a more structured approach to research.

[2] Historically, the vast majority of research papers produced by Dental Institute staff have been published in Polish journals. The Visitors strongly encourage the dental staff to focus their research publications in international peer reviewed journals of good standing. This will help to raise the quality of research output as well as targeting the research to a world-wide audience. The Visitors appreciate that some difficulties in preparing scientific articles for publication in English language journals have been experienced by some staff, but this should not discourage staff.

[3] The Visitors wish to encourage the staff to concentrate on improving the quality of research, and subsequently the quality of research publications, rather than emphasizing the volume of research publications.

[4] The Visitors consider that it would be very beneficial for the Dental Institute to establish a formal structure [perhaps a committee] to facilitate, promote and protect research. Members of the committee could include the Dean, the Director, the vice-Dean and Heads of Departments, as well as representatives of other Departments within the Faculty.

A full list of Articles published in Polish to be submitted in English translation by the school

Articles published in international journals

1997

Ebert, J., H.Pawlicka, A.Petschelt. Dichtigkeit von Wurzelkanalfulkungen mit AH26 im zentrifugationsbeschleunigten Penetrationstest. Teil II. Zusammenhang mit der rontgenologischen Bewertung. *Endodontic*, **1**:41-46.

1998

Kurnatowska, A.J. Activity of hydrolytic enzymes of *Candida albicans* strains isolated from patients with periodontal and oral mucosal diseases. *Mycopathologia*, **141**:105-109.

Kurnatowski, P. and A. J. Kurnatowska. Fungi of *Candida* species in the pharynx and some parameters of humoral and cellular immunity in patients. *Panminerva Medica*, **48**:93-97.

Dubojska, A., E.,G. White and S. Pasiak. Die bedeutung der balancierten okklusion fur die stabilitat von telalprothesen. *Quinessence*, **49**:885-891.

Dubojska, A., E.G. White and S. Pasiak. The importance of occlusal balance in the control of complete dentures. *Quintessence International*, **29**:389-394.

Pawlowska, E. and M.Wiœniewska-Wrona. An attempt to modify bonding systems by means of chitosan monograph - volume IV. Progress on Chemistry and Application of Chitin and its Derivates, 117-122.

Laszkiewicz, J. and G. Gambarini. The effect of rotational speed on cyclic failure of Profile.04 taper, nickel-titanium rotary instruments. *Journal of Evolutionary Dentistry*, **1**:53-58 /www.dental-smile.com/.

1999

Alwas Danowska, H.M., M.-C.D.N.J.M. Huysmans and E.H. Verdonschot. Effects of alternating and direct electrical current application on odontoblastic layer in human teeth: an *in vitro* study. *International Endodontic Journal*, **32**:459-463.

Kurnatowska, A.J. and P.Kurnatowski. Trichomonosis of the oral cavity complicated by mycosis. *Parassitologia*, **40**:339-342.

Kurnatowski, P. and A.J. Kurnatowska. Fungi of *Candida* species in the pharynx and some parameters of humoral and cellular immunity in patients. *Panminerva Medica*, **41**:149-51.

2000

Górecka, V., T. Biskupski and S. Suliborski. Direct pulp capping with a dentine adhesive resin system in children's permanent teeth after traumatic injuries: Case report. *Quintessence International*, **31**:241-248

Section 21 Quality Development

Doctors beginning their employment at the University are expected to carry out teaching and research work. They improve their professional qualifications specialising at selected disciplines of dentistry. Assistants are supposed to do research, publish the results, to be awarded doctoral degrees within 8 years. Having received doctoral degrees they should continue their research to reach Habilitation Degree level within the next 9 - 12 years. The Senate Commission evaluates progress in research. The Faculty Board of the University and the Central Qualification Commission subjects habilitation Theses to evaluation.

International liaisons:

Our School maintain scientific and educational co-operation with many partners, especially the University of Maryland at Baltimore, USA

Every year students and academic staff participate in international scientific conferences.

At present we have 23 foreign students in our School.

Visitors' Comments

We consider that a constructive approach to quality improvement is an essential component of the recommended changes in this

Section 22: Overall Comments on the School

In addition to teaching undergraduates we train postgraduate students (about 50 each year) during their one-year clerkship, which enables them to gain more professional experience under the supervision of our academic teachers. Further advanced postgraduate education in different specialist areas of dentistry is offered by our School at different courses. Our Institute also provides continuous education courses like one-day conferences or certificate courses designed to update the knowledge and skills of dentists and conducted by our academic teachers and the lecturers from abroad. Each year in September the Institute organizes the Central European Dental Exhibition CEDE, which is accompanied by the Scientific Sessions of LODZ Dentistry Forum with lectures presented by European, North American and Canadian lecturers.

Patients from LODZ region are treated at all the departments of the Institute of Dentistry. We also perform comprehensive dental treatment of children and adults including handicapped subjects.

Scientific research is conducted in all specialization areas of dentistry represented at the Institute. The results of investigations are published in scientific journals and presented at the Polish and international scientific congresses and meetings.

During the period from 1945 to 1999 many academic teachers received the PhD degree and 20 - habilitation degree (in Poland a scientific degree higher than PhD).

International co-operation with the Baltimore College of Dental Surgery at the University of Maryland at Baltimore is based on the formal Memorandum of Agreement signed by the representatives of our Medical University and the University of Maryland. Moreover, the Institute of Dentistry has been collaborating for a few years with:

- University of Sheffield in Great Britain
- University of Ulm in Germany
- Catholic University of Nijmegen in the Netherlands
- University of Erlanhen in Germany
- University in Rome

Section 23**Visitors Comments on the School
(Executive Summary)**

The Visitors wish to express their gratitude to the School of Dentistry of the Medical University of Lodz for the warm reception and hospitality offered throughout the five days of the visit. At all times the Faculty in the Institute provided all documents requested in an open and co-operative manner. They were disposed to discuss in a frank way the challenges the Faculty and Dental Institute face.

The Visitors wish to express their special appreciation to:

Dean of the Institute of Dentistry:	Prof. Magdalena Wochna-Sobanska, DDS, PhD Professor of Medical Sciences
Director of the Institute of Dentistry:	Prof. Stanislaw Suliborski, DDS, PhD Professor of Dental Sciences
Secretary:	Anna Wisniewska, MA

At the outset the Visitors were conscious of the fact that the Dental Institute at Lodz is a reference centre for other dental schools in other Associate Countries and exemplified many of the challenges in the convergence of standards in European academic dentistry.

The visit to Lodz was a fascinating experience in that it represented an Associate Country with rapidly increasing economic resources challenged by increasing demands for expenditure.

It was regrettable that most of the students were on vacation so there was little opportunity for the visitors to see students working in their clinical environment.

General Features

It is important to put the achievement of the Institute of Dentistry in context. Enormous advances have been achieved in a short ten-year period. Forward thinking and ingenuity has provided this institution with a building and facilities that would be the envy of most dental academic units. An evolving curriculum will have to answer the sometimes conflicting demands of modern dental education and a very traditional approach as articulated by the Council of Deans of Polish Dental Schools.

The space and quality of housing of the Dental Institute, maintained at a very high standard of hygiene, constitute an example for other European Schools to follow. Although four years old, the standards of maintenance and decoration continue to be very high giving the visitor an impressive introduction to Polish dental education. The maintenance of these standards and the replacement of the exceptionally modern equipment in ten or more years will be a daunting task as the Polish economy develops, salaries rise to EU levels with an inevitable erosion of discretionary expenditure for the purchase of new equipment.

Already there is a significant problem in respect of salary levels, which results in most staff earning their main income from private earnings. Whilst sympathizing with the need of

academic staff to earn a reasonable income this approach may be at the expense of some scholarly activities and especially research. There is a significant challenge to the leaders of the Institute to increase staff participation in the scholarship expected of university staff, whilst their expectations in respect of higher salaries are probably far higher than those involved in other full-time university activities. If the present trend continues, few if any would fulfil the academic criteria for full professorial appointment because there would be such a priority given to income generation from private practice. Even if the University were to increase salaries it would seem unlikely that they would be sufficiently high to compensate for what a dentist is capable of earning in Lodz.

Stomatologists enjoy the same professional standing as their medical counterparts and are equal partners in the Lodz Medical Chamber. All doctors and dentists are required to register with the Chamber in order to practice. The Chamber, in addition to many supportive roles also has disciplinary functions that can result in a practitioner being removed from their register. On a number of occasions the advantages of stomatology as a career over medicine were articulated by medically qualified practitioners because of the problems of unemployment of doctors and low remuneration levels compared to stomatologists. Presumably in a changing economic environment the entrepreneurial potential of initiating a dental practice is greater than starting a medical practice. The high levels of dental diseases in Poland contribute to this.

Regrettably there was not a great deal of emphasis on public health strategies for oral and dental health gains and much concern was at individual patient level rather than community health strategies. This is a serious concern.

Clearly the Director of the School has managed to balance income from a variety of sources to the enormous benefit of the School and provide recurrent costs for running the institution in its present condition and high standards of equipment. In this he is to be highly commended.

On reading the curriculum for the Lodz Institute of Dentistry the dominance of a medical curriculum over essential clinical training in basic dental care is clearly evident. It seemed that there was little integration between subjects and as a consequence a combination of considerable overlap in different courses, potentially the possibility of conflicting information and probably omissions. In a curriculum which needs to include far more time in helping students acquire basic clinical competences there is no room for inefficiencies. For example, we note the issues of heart valve disease and infective endocarditis covered in more than four courses without a clearly defined hospital policy on antibiotic prophylaxis.

The most important recommendation this team of visitors has to offer is that a concerted effort be made to agree what it is the faculty expect their graduates to be able to do on qualification and state this in a series of educational objectives and clinical competences. Priority should then be given to the achievement of those agreed outcomes. In turn this will eliminate irrelevant material, reduce detail and prioritize the information expected from the students of this program. At this time the curriculum in Lodz is a collection of courses without a cohesive overall educational approach.

Many of the essential ingredients of an excellent school of stomatology can be found in the Institute of Dentistry in Lodz. These include visionary leadership, dedicated staff and

committed students and a general commitment to doing what is best for both patients and students.

Because of comparisons made between stomatology and odontology and because of the previous move in the European Union away from stomatology, this was considered to be one of the most important of the DentEd visits. It is also one of the first schools in Poland to undergo the DentEd exercise and open its doors to the collective views of international peers. It is therefore important to stress that the Visitors' comments were not directed towards the differences between the systems. We tried to focus on essential competences for a modern dentist or stomatologist, which would ensure that they were safe to undertake the independent practice of dentistry on completion of their five-year training program. It is important to stress that in Lodz there is a very variable set of post-qualification internships (one year) ranging from the Dental School, which attracts the brightest cohort, to clinics which may not be well staffed or equipped.

There is a dedicated hospital unit devoted to Maxillofacial surgery as part of a general hospital where there were very complex procedures undertaken as a consequence of oncology, trauma, infection, and developmental defects. Inevitably such advanced surgical interventions, all apparently carried out with admirable care and surgical prowess and admitted to their own self-contained in-patient facilities within the Stomatological Institute, profoundly and reasonably influenced priorities. Nevertheless the day-to-day role of most stomatologists will not be in the cauldron of life and death patient care, rather in the control and treatment of common oral and dental diseases. However, it would be dangerous for those who are accustomed to their own traditions of dental schools to impose their values on the traditions of stomatology without further exploration of relatives priorities, outcomes and indeed value for State investment.

On the one hand the dentist or stomatologist is required to be competent to carry out the practice of dentistry on completion of his or her program. On the other hand the medical student is expected to have a broad theoretical knowledge acquiring further competence in hospitals and clinics following graduation. The European Union requires of a dental graduate to be competent to carry out the independent practice of dentistry. The concept of the oral physician asks that a dentist also have competence in the comprehensive care of a patient embracing the general well being of the person. Further discussion is necessary to determine the relevant merits of stomatology and odontology as they move closer to each other, particularly within an expanding European Union. In the light of this visit a special section will be devoted to this subject at the Stockholm consensus meeting in September 2000.

The stomatological or dental curriculum in Lodz contained too much detail in the theoretical subjects, especially medicine and insufficient emphasis on the acquisition of clinical competence. This should not be interpreted as suggesting that the stomatologist or dentist is essentially a technician; indeed the opposite is the case. Clinical competence embraces the philosophy of holistic patient care based on sound scientific principles.

The role of the dentist can be very significant in maintaining the well being and systemic health of his or her patients and the comments that are made in respect of the individual sections identify some of the concerns which the Visitors had. Particular attention is drawn to the need to develop comprehensive integrated patient, increased emphasis on the behavioral sciences and patient communication and the fundamental importance of

integrating the curriculum between all of the disciplines including the theoretical, medical and stomatological departments.

Strengths:

- Students and Faculty members have considerable pride in their School and seek to have it as a leading Dental Institute of international standing*
- The clinical facilities are of the highest quality and are well-maintained*
- There is evidence of considerable business acumen which, if it continues to be directed towards the interests of the academic future of the school, will be a great advantage*
- There is a strong medical and biological base to the curriculum, although it requires serious pruning and integration.*
- Treatments provided in areas such as Oral and Maxillofacial surgery are complex and advanced giving stature to stomatology within the medical hospital environment*
- There will be a rapid growth rate in Poland...this is also a challenge*
- This school could serve as a reference center for schools with similar curricular structures*
- There is a good infrastructure with the potential for major advancements*
- Dentistry is a sought-after career*
- The potential of the student body in helping curricular reform has yet to be properly exploited*
- There is excellent leadership and these skills are also evident in the cohort of younger academics which needs to be developed and exploited*

Weaknesses:

- There are no stated or faculty-wide agreed educational aims or objectives*
- There is a serious lack of integration between courses*
- The curriculum contains excessive detail and it is very fragmented*
- Students do not have enough experience in basic dental care*
- There is insufficient emphasis on gaining clinical competences and perhaps a lack of emphasis on this critical outcome to dental education*
- There is insufficient understanding between departments*
- There is too much emphasis on theory and memorising*
- There is insufficient emphasis on understanding, problem solving and critical thinking*
- The curriculum is excessively influenced by the priorities of the medical curriculum*
- The application of universal precautions in cross infection control is a weakness*
- Students do not retain responsibility for individual patient care*
- There is no curriculum committee and this may be symptomatic of a reluctance to establish strategic development groups with stated objectives to achieve in a time span*

Challenges

- To cope with a rapidly changing economic environment*
- To cope with the attractions of private practice earnings*
- To upgrade academic standards at undergraduate and postgraduate levels*
- To have more control of the Dental School's curriculum*
- To integrate courses to a far greater extent with an overall single educational approach*
- To establish a list of stated educational aims and objectives for each subject area*

- *To attract the most able into full-time academic careers*
To maintain the standards of the physical environment as equipment ages and in competition with demands to upgrade other facilities in the Medical University as they move into the same building
- *To provide the appropriate academic environment where staff can reasonably have expectations to become full professors and lead research*
- *To create a sense of responsibility to maintain the highest standards in scholarship*

Innovations and Best Practices:

- *The creation of a state-of-the-art facility despite competing demands for university funding in a difficult economic climate*
- *Cleanliness and control of the building*
- *Professional manner in which the business of the school is managed and administered*
- *Extensive use of simulation although this can never be a substitute for experience gained on real patients*
- *The Dental School has its own small "hotel" for housing visitors*
- *The increasing use of digitized radiographs*
- *Use of IT in patient education*
- *Attention to detail in maintaining hygiene in clinics*

Recommendations:**Strategic Matters**

- Establish a strategic planning group to consider some significant finance/resources challenges to the future viability of the Institute of Stomatology*
- There is an urgent need to devise alternatives to the strong financial attractions of private practice if faculty members are to give more time to scholarly activities and especially quality research.*
- The replacement of current state-of-the-art dental clinical equipment needs to be anticipated if the school is to avoid a difficult period in 10 or more years particularly when the presence of other medical facilities will be strong competitors for available funds in the same building*
- Ensure that the academic standing of the stomatological institute within the University is enhanced by improving the quality of its research output and publications in international journals*
- Ensure that there is a future cohort of academic staff with the qualifications necessary for appointment to full professorial posts in the Institute of Stomatology*
- Introduce a curriculum committee or review group*
- Introduce a cross infection control officer or group*
- Apply universal cross-infection control policy*
- Include external examiners and assessors in undergraduate and postgraduate courses in order to bring about a greater level of exchange with international colleagues.*
- Seek to influence the Council of Dental Deans of Poland in order to encourage curricular reform and to question the traditional approach*
- If the stomatological institute finds it impossible to introduce significant curricular reform due to the dominance of the Medical Faculty it may be useful to seek an independent Faculty of Stomatology or Dentistry*

Curricular and Training Matters

- All course organizers must sit down together to work out an agreed educational philosophy with clearly defined aims and objectives*
- Reduce the excessive detail in the curriculum and especially in the biological and medical sciences with greater emphasis on priorities*
- Prioritize the acquisition of clinical competences*
- Ensure that the noticeable emphasis on manikin heads is not considered an alternative to essential clinical experiences in basic dental care for all students*
- Review the EU documents from the Advisory Committee on the Training of Dental Practitioners on clinical competences*
- Integrate the different and overlapping courses in the curriculum*
- Ensure students are given significant responsibility and ownership in curricular reform and strategic planning*
- Ensure that both students and staff wear protective cover for their eyes*
- Extend the concept of integrated and comprehensive patient care*
- Publish more in international peer-reviewed research journals*
- Ensure that all theses approved are worthy of providing acceptable material for publication in peer-reviewed international scientific journals especially for PhDs*