



Dental Education at the University of Tartu

**UNIVERSITY OF TARTU
FACULTY OF MEDICINE
DEPARTMENT OF STOMATOLOGY**

DENTED VISIT REPORT

20 – 24 May 2000



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Preface

This report has been compiled using the extensive documentation supplied by the school and the comments of the visiting team which are based not only on the documentation and the extra information supplied to us during the visit, but also on our own observations and discussions.

The report is produced by a multispecialty, multinational, multilingual group who entrusted their anglo-phone chairman with the final editing. He is willing to accept responsibility for errors of detail but asks readers to concentrate on the group's main conclusions to which we all subscribe unreservedly. These have generally been produced at the end of each section as a Summarising View, together with a final Executive Summary.

Section 1 - Introduction and General Description

1.0 School Data

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1.1 Historical background

The Medical Faculty of the University of Tartu was founded in 1632. It is the only place in the Estonian Republic where Medicine, Dentistry, Pharmacy and Nursing Sciences can be studied. Dentistry has been taught to medical students since 1814. The Chair of Dentistry within the Medical Faculty was founded in 1936 and the Department of Dentistry in 1938. Up to 1942 dental education took 9 years to complete: 6 years of undergraduate medical education plus 3 years of specialisation in dentistry.

From 1944 the Department of Dentistry was renamed to the Department of Stomatology and the curriculum revised: 3 years of medical plus 2 years of dental education with six weeks clinical practice during summer time for the DMD-degree, and an additional 11 months internship to qualify as stomatologist with the license to practise dentistry independently (see Figure 1). This internship is scheduled with two months each of Oral Surgery, Orthodontics and Prosthodontics respectively, and five months of Oral and Dental Diseases (Operative Dentistry).

Besides other revisions from 1986 on, in 1997 an innovative, Europe-oriented curriculum was introduced, which will be fully operational in 2002: 2 years of training in basic medical sciences intertwined with basic professional medical and dental preclinical education from the third semester on followed by 3 years of medical and dental clinical education (without gynaecology, obstetrics and surgical diseases) resulting in the DMD-degree and the license to practise dentistry (compare Figure 1). Consequently, the "old" curriculum will finish in 2002.

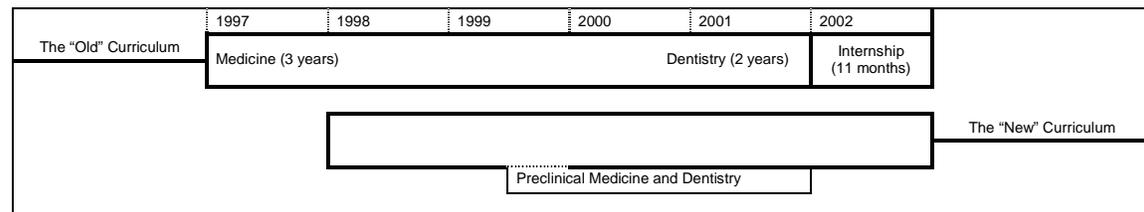


Figure 1: The concepts of the "old" and "new" curriculum

1.2 Undergraduate Curriculum Characteristics

The new undergraduate curriculum is characterised by **general aims and objectives**.

- to promote an educational system towards higher standards of dental education and patient health care,
- to provide future dentists with an ethical and appropriate scientific approach and
- to avoid a prescriptive approach based on graduate's curriculum of education and training in order to understand and accommodate other concepts and philosophies.

The **format of the curriculum** is five academic years, each with an autumn and a spring semester. Each semester ends with examinations (exams) and additional preliminary examination (prelims). Competencies are documented by Credit Points. According to the ECTS – European Credit Transfer System one Credit Point represents 40 hours, including 24 hours of contact time (lectures, practical training and assessment) and 16 hours of individual study time. At the average, one academic year corresponds to 40 Credit Points. In the curriculum, subjects are obligatory, elective and free. With “Elective Subjects” 6 Credit Points can be earned in the first, 7 in the second, and 4 Credit Points each in the third and the fifth year; with “Free Subjects” 1, 1, 1, 1 and none Credit Points respectively. Students graduate by “The Final Examination” at the end of the fifth year. An overview is given in Table 1: In total 195 Credit Points must be earned, which is equivalent to 7,800 hours. All this information is published in the annual study guide (“teatmik”).

FIRST YEAR			
SUBJECT	CREDIT POINTS	SUM	METHOD OF ASSESSMENT
Anatomy and Histology Anatomy Histology	9.5 3.0	12.5	Exam
Medical Biology I Biology General Histology and Human Embryology	6.0 2.0	8.0	Exam
Medical Biology II Medical Chemistry Medical Biochemistry Biophysics	2.0 3.0 3.0	8.0	Exam
Public Health I Epidemiology and Biostatistics	3.0	3.0	Exam
First Aid, Basic Nursing Care, Ethics First Aid Basic Nursing Care Ethics	0.8 0.8 0.4	2.0	Prelim
Latin		1.5	Prelim
Elective subjects Philosophy Computer Science Histological Technique Foreign language Immunohistology Immuno- and Histomorphology of Inflammation Radiation used in Medicine Introduction to Medical Electronics Early Stages of Embryonic Development of Humans	1.0 1.0 1.0 1.0 0.5 0.5 1.5 1.0 0.5	6.0	Prelims
Free subjects		1.0	Prelim
	Sum	42.0	

SECOND YEAR			
SUBJECT	CREDIT POINTS	SUM	METHOD OF ASSESSMENT
Physiology		6.0	Exam
Medical Biochemistry		3.0	Exam
Immunology		2.0	Exam
Medical Microbiology		6.0	Exam
Public Health I Epidemiology and Biostatistics	3.0	3.0	Prelim
Public Health II Health Promotion Sociology of Medicine	3.0 1.0	4.0	Exam
Propedeutics in Stomatology Dental Materials Oral and Dental Diseases (Phantom Course) Prosthetic Dentistry (Prosthetic Materials and Technology)	2.0 4.0 4.0	10.0	Exam
Elective subjects Cellular Signal Mechanisms in Case of Some Disorders of the Endocrine and Nervous System Consciousness - an interdisciplinary Problem Morphology of Oral Cavity and Teeth Dental Occlusion Fundamentals of Logopedics and Phonetics Neurophysiological and Neurochemical Mechanisms of Pain Microbiology of Stomatological Diseases Chemical elements in Dental Tissues Milk, Coffee and Health	0.5 1.0 0.5 2.0 1.5 1.0 0.5 0.5 0.5	7.0	Prelims
Free subject		1.0	Prelim
	Sum	42.0	

THIRD YEAR			
SUBJECT	CREDIT POINTS	SUM	METHOD OF ASSESSMENT
Pathology		8.0	Exam
Pathological Anatomy	4.0		
Pathological Physiology	4.0		
Pharmacology		4.0	Exam
Oral and Dental Diseases I		4.0	Exam
Cardiology	4.0		
Prosthetic Stomatology I		4.0	Prelim
Oral and Maxillofacial Surgery		4.0	Prelim
Paediatric Stomatology		2.0	Exam
Internal and Infectious Diseases		5.0	Prelim
Internal Diseases	4.0		
Infectious Diseases	1.0		
Clinical Anatomy and Radiology		2.0	Prelim
Clinical Anatomy	1.0		
Radiology	1.0		
Public Health III		2.0	Exam
Environmental and Occupational Health	2.0		
Elective Subjects		4.0	Prelims
Toxicology	1.0		
Anomalies of the Development of Teeth	1.0		
Laboratory Medicine	1.0		
Congenital Anomalies of Teeth	1.0		
Local Anaesthetics in Stomatology	1.0		
Differential Diagnostics in Cardiology	1.0		
New Methods in Laboratory Diagnostics	1.0		
Free Subjects		1.0	Prelim
		1.0	
Sum		40.0	

FOURTH YEAR			
SUBJECT	CREDIT POINTS	SUM	METHOD OF ASSESSMENT
General Surgery		3.0	Exam
ENT diseases		2.0	Exam
Ophthalmology		1.0	Prelim
Neurology and Psychiatry		3.0	Prelim
Prosthetic stomatology		6.0	Prelim
Orthodontics	2.0		
Childrens Surgical Stomatology	2.0		
Medical Genetics	2.0		
Oral and Maxillofacial Surgery I		4.0	Exam
Dermatology and Veneral Diseases		2.0	Exam
Forensic Medicine		1.0	Prelim
Clinical Practice		4.0	Prelim
Oral Surgery	2.0		
Prosthetic Dentistry	2.0		
Elective Subjects		4.0	Prelims
Radiotherapy	1.0		
Clinical Psychology	1.0		
Rehabilitation	1.0		
Diseases of Temporomandibular Joint	0.5		
Light Cured dental Materials	0.5		
Dental Radiography	1.0		
Free subject		1.0	Prelim
		1.0	
Sum		31.0	

FIFTH YEAR			
SUBJECT	CREDIT POINTS	SUM	METHOD OF ASSESSMENT
Children Diseases		2.0	Prelim
Emergency Medicine, Anaesthesiology and Intensive Care		2.0	Prelim
Health Care Economics		2.0	Prelim
Clinical Pharmacology		1.0	Prelim
Oral and Dental Diseases (Endodontics, Mucuous Membrane Diseases)		3.0	Prelim
Prosthetic Stomatology		3.0	Prelim
Paediatric Stomatology		4.0	
Maxillofacial Surgery		2.0	Prelim
Clinical Practice		15.0	Prelim
Oral and Dental Diseases	4.0		
Prosthetic Stomatology	4.0		
Paediatric Stomatology	4.0		
Maxillofacial Surgery	3.0		
Electives		4.0	Prelims
Clinical Biochemistry	1.0		
Implants in Stomatology	1.0		
Prosthetics in Children	1.0		
Orthognatic Surgery	1.0		
Dental Radiography I	1.0		
Final exam		2.0	Exam
Theory	1.0		
Practical work	1.0		
Sum		40.0	

Table 1: The 5-year Dental Curriculum

Theoretically the **admission capacity** is 40 students per year, but at present it is 30. This is because the dental population in Estonia grew within the past 10 years from ca. 500 to 1,000, and it was decided in 1995 that there is no further need for more dentists. Because private practice is very attractive at this moment for economic reasons, there is great competition for places. We were told it was easier to gain entry to the medical course.

Organisational units are tutorial groups of 5 students each.

1.3 Graduate Curriculum Characteristics

Postgraduate Training at the Department of Stomatology is in:

- Oral and Dental Diseases incl. endodontics, cariology and periodontology by a 3 year programme to qualify as specialist in oral and dental diseases,
- Paediatric Stomatology by a 3 year programme to qualify as a paedodontist,
- orthodontics by a 3 year programme to qualify as an orthodontist,
- Prosthetic Stomatology by a 3 year programme to qualify as a prosthodontist and
- Oral and Maxillofacial Surgery by a 5 year programme to qualify as an oral and maxillofacial surgeon.

Training occurs to internationally adopted curricula beyond the DMD degree by participation in research, publication and attendance on national and international scientific conferences. After completion of training certification occurs by a final exam. Twenty students are in residency (Table 2) at present.

DISCIPLINE	TRAINEES (n)	DISCIPLINE	TRAIN EES (n)
Oral and Dental Diseases	1	Prosthetics Dentistry	7
Paedodontics	2	Oral and Maxillofacial Surgery	4
Orthodontics	7		

Table 2: Distribution of trainees in residency

The trainees are members of the International Association for Dental Research (CED and NOF), the European Association for Cranio-Maxillofacial Surgery, the International Association of Oral and Maxillofacial Surgery, the Baltic Association for Maxillofacial and Plastic Surgery, the Baltic Association for Prosthetic Dentistry, the Baltic Association for Orthodontics and the Estonian Society for Stomatology.

Postgraduate training of 4 years and successful defence of a doctoral dissertation leads to the degree of Doctor Medicinae.

VISITORS COMMENTS – SUMMARISING VIEW (Section 1)

In the past decades many curriculum changes have been made. The last change moves towards “European Criteria”. A close view on the curriculum structure and content shows that it

- meets the content of the (informal) DENTED-catalogue of “Knowledge and Understanding”, and
- is a traditional teacher- and medical-oriented curriculum.

In regard to the WHO-concept “Unity for Health” and the ADEE-plea for implementation of more medical subjects in the actual dental curriculum there could be an opportunity for the Tartu Medical Faculty to develop an innovative model implementing the modularised interdisciplinary approach of problem-based learning within their organisational structure.

PBL cannot be an addition since the students’ time is so fully occupied, but there is scope for organising some instruction time as ‘topic’ teaching involving co-operation between subject teachers – this could be a first step.

Section 2 - Facilities

2.1 Pre-clinical and Clinical Facilities

The Medical Faculty, which is responsible for the education and training in medicine, dentistry, pharmacy and nursing, has 9 pre-clinical and 19 clinical institutions (compare Table 3).

PRECLINICAL INSTITUTIONS	CLINICAL INSTITUTIONS
<ol style="list-style-type: none"> 1. Department of Anatomy 2. Department of Biochemistry 3. Department of Pathophysiology 4. Department of Pharmacology 5. Department of Physiology 6. Department of Pathological Anatomy and Forensic Medicine 7. Department of Microbiology 8. Department of General and Molecular Pathology 9. Department of Public Health 	<ol style="list-style-type: none"> 1. Department of Anaesthesiology and Intensive Care 2. Department of Cardiology 3. Department of Surgery 4. Department of Pulmonology 5. Department of Paediatrics 6. Department of Obstetrics and Gynaecology 7. Department of Neurology medical Neurosurgery 8. Department of Internal Medicine 9. Department of Radiology and Oncology 10. Department of Dermatology 11. Department of Stomatology 12. Department of Sports Medicine and Rehabilitation 13. Department of Traumatology and Orthopaedics 14. Department of Oto-Rhino-Laryngology 15. Department of Infectious Diseases 16. Polyclinic 17. Department of Psychiatry 18. Department of Ophthalmology 19. Centre of Continuous Medical and Stomatological Education

Table 3: Pre-clinical and Clinical Institutions

The Department of Stomatology is situated in three buildings:

- the Tartu University Dental Clinic in the City Centre of Tartu (Raekoja plats 6).
- the Tartu University Centre of Prosthetic Dentistry in the building of the Maarjamõisa Polyclinic (Puusepa Street 1).
- the Tartu University Clinicum (Maarjamõisa Hospital) with its Department of Maxillofacial Surgery (Puusepa Street 8).

Pre-clinical subjects of dentistry (and medicine) are taught in the brand new building "Biomeedikum" which was built with financial aid from the World Bank and was opened in the autumn of 1999. It has its own organisational structure and is electronically linked to all other facilities of the university.

Teaching of the medical clinical subjects and Maxillofacial Surgery is performed in the 19 departments of the Maarjamõisa Hospital. The Department of Maxillofacial Surgery has 20 beds and its own out-patient facilities.

Dental clinical training is performed in the Tartu University Dental Clinic and in the building of the Maarjamõisa Polyclinic (Puusepa 1). 14 dental units are available for student training in Oral and Dental Diseases and Orthodontics and Paediatric Dentistry as well, 2 for Oral Surgery and 7 for Prosthetic Dentistry.

Strengths

- The campus environment.
- An optimally equipped lecture room is available in the Dental Clinic.

- Renovated, modern equipped patient friendly treatment areas for clinical training in the Dental Clinic.
- Extremely modern and equipped teaching (lecture) rooms and laboratories in the Biomeedikum.

Weaknesses

- Dental Clinic, Maarjamõisa Polyclinic and Hospital and Biomeedikum are not at “walking distance”
- “Lecture hall” in the Dental Clinic too small to fit a student cohort (danger of overcrowding).
- This “lecture hall” has also to serve as individual study spaces.
- No small tutorial rooms in any facility.
- Not enough rooms for staff members (sometimes 6 staff members share ca. 12 m²).
- Laboratories in the Biomeedikum do not fit one student cohort (always two sessions needed).
- No dedicated common rooms.

2.2 Teaching Facilities

In the Dental Clinic and the Centre of Prosthetic Dentistry students can practice on 16 dental units (which for cohorts of 30 – 40 students seemed to be not enough). The Centre of Prosthetic Dentistry is equipped with 7 dental units, a technical laboratory and a manikin training room with 9 places.

All seminar rooms in both institutions are equipped with slide projector and overhead projector; one seminar room also has a video projector. A data projector can be lent from the technical service department. The dental units in the recently renovated clinic rooms are mostly modern. The supply of instruments and materials has been improved annually.

In the Biomeedikum there is a lecture hall, two seminar/lecture rooms and practical laboratories maximally equipped with multimedia and information technology equipment; the seminar/lecture rooms even with video camera systems for the purpose of self-observation.

Strengths

- Modern equipment in renovated or brand new surroundings.
- Well organised structures (rotations) to organise teaching and optimise the use of teaching facilities in the Dental Clinic and the Centre of Prosthetic Dentistry.
- The cafeteria in the Biomedikum (with its function as common room).

Weaknesses

- There are no easy opportunities to operationalise the intended implementation of innovative learning formats as problem-based learning: Within the planning of the Biomeedikum the unique opportunity to establish enough small group seminar rooms had been missed.

2.3 Teaching Laboratories

In the Centre of Prosthetic Dentistry of the Maarjamõisa Polyclinic, operational since 1995, the pre-clinical course for 3rd semester students focuses on restorative dentistry, including material science and dental technology: 5 dental units, a laboratory of physics (to study material/properties) and a dental laboratory (to study and train in dental technology) are available.

Strengths

- Teachers, technicians and researchers of the Institute of Physics contribute jointly to the teaching process.
- The dental laboratory is well equipped.

Weaknesses

- There seemed to be a shortage of units for the phantom course (only one tutorial group can be trained at a time)
- The available units have no suction and aspiration system.

Best Practices

- Students practice cavity preparations on natural teeth.
- Small tutorial groups - 5 students in one group.

2.4 Research Laboratories

Traditionally, the Department of Stomatology cooperate with all (nine) institutes of basic science in the University many years. All institutes are situated in the Biomedikum. In consequence, the department does not have its own laboratories, but has access to all the laboratories of the faculty - for individual or joint studies (staff members are involved in local research projects and international joint research projects with Karolinska Institute, Universities of Helsinki, Turku and Kuopio).

Strengths

- All biomedical sciences clustered in one unit.
- The new Biomedikum with its most modern teaching and research facilities.

Weaknesses

- Optimal utilisation of the new facilities has yet to be achieved.
- Shortage of follow-up investments, e.g. for chemicals and other consumables.
- Shortage of finances to start staff's own research projects.

Best practices

- Instant IT access, for example, to use facilities as the Medical Information Centre.
- Students, especially PhD-students, have good access to the laboratories based on mutual agreement and participation in research projects of the institutes.

Innovations

- Since 1997, PhD-students get some finances (annual stipend award) for their research.
- From autumn 1999, computer training classes for medical and dental students.

VISITORS COMMENTS

The dental school has a renovated Dental Clinic and Centre of Prosthetic Dentistry, also a new Biomedikum. These sites are well equipped and in good condition and compare favourably with the highest international standards. There is a programme to exchange the last "old" dental units in the Dental Clinic. In relation to the size of the student cohorts, there is a shortage of space and units (technical and clinical). In the hospital all functional areas are up-to-date equipped and renovated. All other areas need special attention until the planned new hospital is erected. The Biomeedikum is an example of excellent re-search and good teaching facility. For the implementation of exercises in problem-based learning concepts small group seminar rooms would have to be created. By efficient deployment of small tutorial groups effective use is made of all resources. The dental students are seen as an elite group whom staff are keen to teach.

2.5 Library

There are two formal library facilities, the central library "Bibliotheca Universitas Tartuensis" and the Medical Information Centrum (MIC) in the Hospital. The MIC is more clinically oriented and is also open for hospital staff as well as undergraduate, postgraduate and PhD-students. There are multiple options to use PCs, audio-visual techniques and microfilm scanners in special rooms or "carrells".

Databases exist as intra-library catalogue (electronic and traditional) and international (electronic) by Internet. The international electronic catalogue is based on EBSCO in the central library and on OVID in the MIC. In addition, Current Contents CD-ROM databases (incl. Life Science and Clinical Medicine) from 1996 on are available in the central library.

An information service gives access to the intra-library electronic data bases by computers located in the computer rooms in the libraries or private computers at home via Internet (<http://www.utlib.ee>). Every student may obtain an e-mail address and has individual access to the university server free of charge. To give access to information located in other libraries, an electronic reference service has been developed which is integrated in the Nordic system (in which Sweden and Finland participate). The Medical Legislation Centrum gives students and staff access to Medline.

Book delivery service from library's archives takes approximately 2 hours. There is a cheap instant professional indoor copy service available (approx. 1/3 of the cost of commercial copies outside).

The central library is making an inventory of books and journals informally present in the institutions of the university (either on institutional or personal subscription basis).

Strengths

- Accessibility of the Information Service.
- Interlibrary Reference Service which is integrated in the Nordic system.

Weaknesses

Financial constraints resulting in a shortage of textbooks and dental journals. We found only two dental journals in the central library and no books. Book stocks are closed and it can take two hours to obtain a requested title.

Innovations

A special institution for Euro-integration, the European Documentation Centrum, has been founded.

VISITORS COMMENTS

In principle, university's central library is well organised and equipped to meet future needs resulting from the implementation of modern educational concepts: There is an enormous potential space available which could be used by small groups working together without disturbing others. The innovation of the textbook area - with its computer training and working area with Internet access - is a good example for what can be expected in future. Nevertheless, its distance to the Dental Clinic and the Centre of Prosthetic Dentistry is not a "walking distance", thus not encouraging frequent use.

Although the MIC at the Hospital has not so much space and is heavily used, it has the enormous advantage of immediate access during work to some textbooks and the Internet.

There is a dramatic shortage of textbooks and current journals: of the only two journals available one was stopped at the beginning of this year! At present, the Department of Stomatology has to make up this deficiency from its own resources. It is strongly advised to find a way to compensate this shortage at short term. Students can buy books but they are very expensive.

Section 3 - Organisational and Administrative Structures

3.1 Academic and Clinical Organisational Structures

The *University of Tartu* is headed by a Rector and three Vice-Rectors:

Rector	Professor Jaak Aaviksoo
Vice-Rectors	Professor Hele Everaus
	Professor Volli Kalm
	Professor Teet Seene

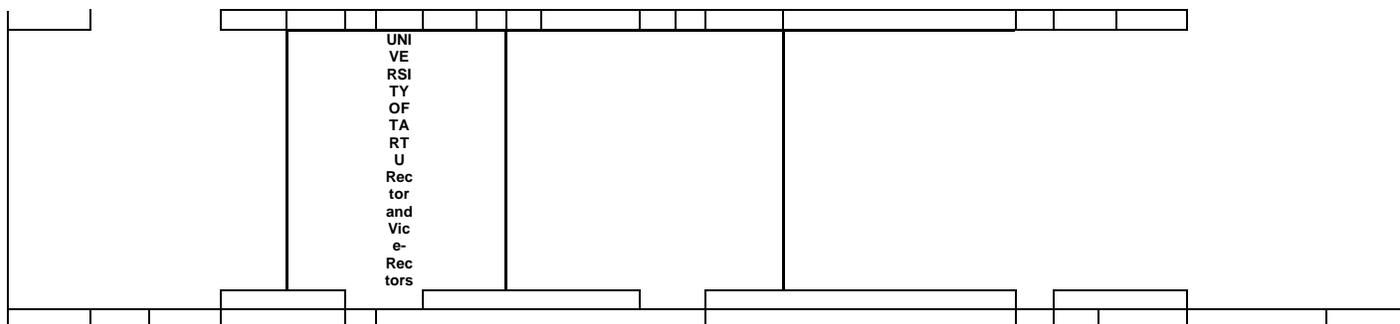
The University has 9 Faculties:

- | | |
|-------------------------------------|-------------------------------------|
| 1. Faculty of Theology | 6. Faculty of Physics and Chemistry |
| 2. Faculty of Law | 7. Faculty of Economics |
| 3. Faculty of Medicine | 8. Faculty of Sports |
| 4. Faculty of Philosophy | 9. Faculty of Mathematics |
| 5. Faculty of Biology and Geography | |

In the *Faculty of Medicine* there are 9 pre-clinical and 18 clinical departments. It offers the opportunity to study medicine, dentistry, pharmacy and nursing sciences. Head of the faculty is the Dean, who is supported by four vice-deans: A Vice-Dean for Studies, a Vice-Dean for Science, a Vice-Dean for Internship and Residency and a Vice-Dean for Finances. Faculty at large is represented by the Faculty Council.

Within the *Department of Stomatology* six disciplines are represented: Oral and Dental Diseases, Prosthodontics, Orthodontics, Endodontics, Paedodontics and Maxillofacial Surgery. The Department of Stomatology is headed by the one full professor, who is also the responsible docent and Head of the Department of Maxillofacial Surgery. For the other five disciplines docents are responsible.

The organisation chart in figure 2 visualises the academic structure of the University of Tartu in a simplified fashion.



Faculty

**MEDICAL
FACULTY
Dean
and
Vice-
Deans**

Faculty

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Dentistry

Nursing

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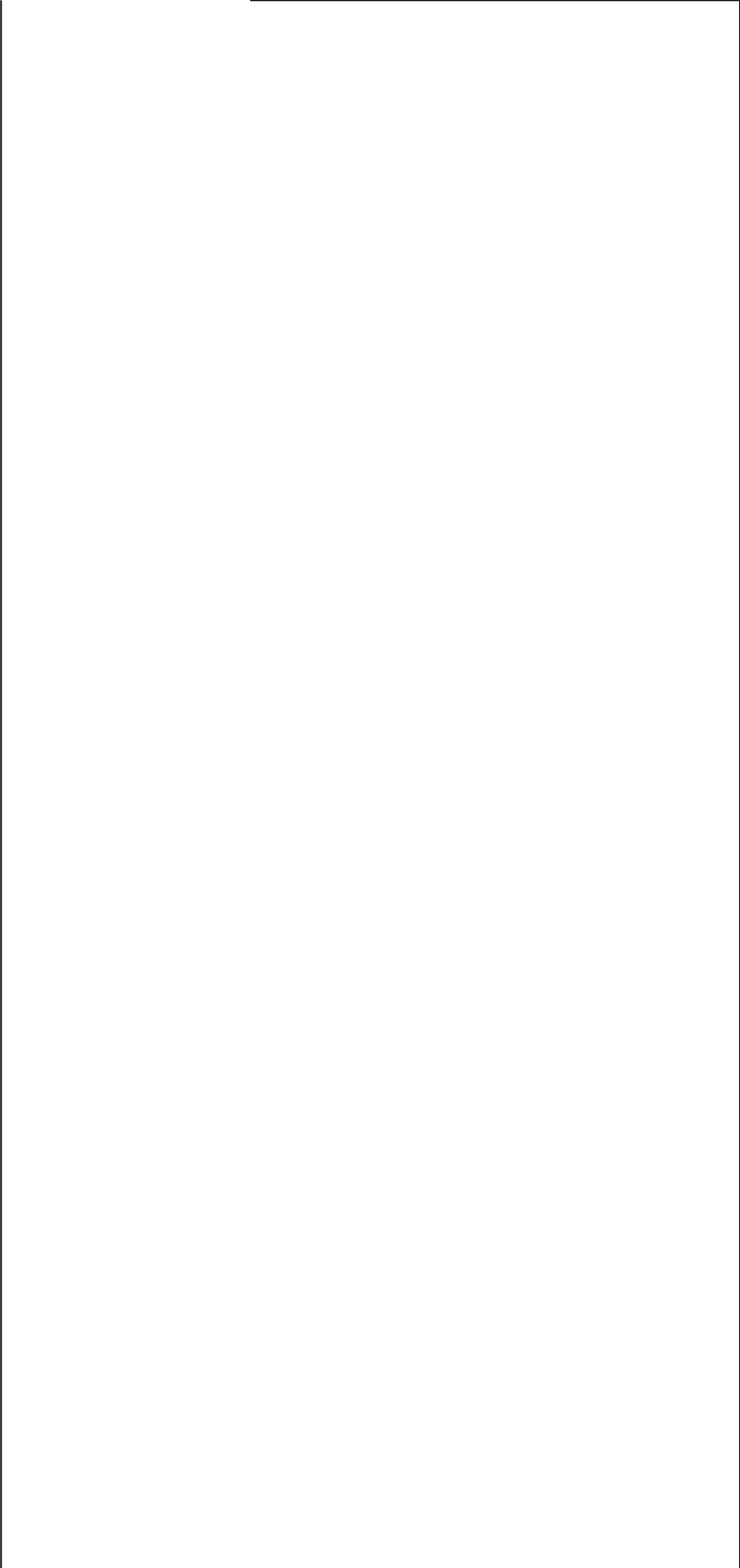
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Oral and Dental Diseases	Prosthodontics	Orthodontics and Paedodontics	Endodontics

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Figure 2: Simplified organisational chart of the academic structure

On 1 January 2000 the "**Tartu University Clinics Foundation**" was set up. The Foundation is a non-profit, non-governmental organisation which manages the Dental Clinic and Centre of Prosthetic Dentistry. It has a director, administration and five sections: (1) Oral and Dental Diseases, (2) Paedodontics and Orthodontics, (3) Oral Surgery, (4) Prosthetic Dentistry and (5) Maxillofacial Surgery (compare Table 3). These departments offer the structures to service dental education and training, and professional practice as well.



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Head

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Prosthodontics	Orthodontics and Paedodontics	Endodontics	Maxillofacial

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Figure 3: Simplified organisational chart of the “Foundation Tartu University Clinics”

All facilities and units of the University of Tartu are linked by its **information technology system** which allows instant communication, feedback and information retrieval (administrative and medical).

Patient data is recorded in personal records which will contain the anamnesis morbi (the patient main complaints, duration of the disease etc.), results of the clinical examination (extra- and intraoral), the status praesens subjectivus et objectivus, the status localis, necessary laboratory investigations (radiological, histological, biochemical etc.), the diagnosis and treatment plan.

Additionally, students register their patients on special data records/forms in which , which all steps of their performance are recorded. These forms are attached to the respective standard records of the Dental Clinic and the Centre of Prosthodontic Dentistry and have to be collected at the end of each semester for recording.

Financial resources available for the Department of Stomatology are multiple: Basic financing comes from the Estonian Ministry of Education and complementary financing occurs from competitive application for participation in institutional programmes and national and international projects.

Although the Dental Clinic and the Centre of Prosthetic Dentistry are financed by the “Foundation Tartu University Clinics” which on its turn is financed by the “Sick Fund” mainly and to a limited extent – supported by the government and income from patient treatment. All practical work and materials used for treatment which is performed by students is financed by the University from the Estonian Ministry of Social Affairs.

In 1999 the budget for all clinics amounted to 3.75% of the university budget, (the budget of the Department of Stomatology was 0.375%). Though, only approximately 50% of the department’s budget could be financed.

VISITORS COMMENTS - SUMMARIZING VIEW (Section 3)

The University of Tartu and its Medical Faculty are traditionally structured and organised in an approved way. For dentistry there is the one Department of Stomatology with its head and subordinated docents and lecturers. It is clearly structured in disciplines, which are congruent with the headings of the curriculum. Innovative is the division of dentistry into the five disciplines of (1) Oral and Dental Diseases, (2) Prosthodontics, (3) Orthodontics and Paedodontics, (4) Endodontics and (5) Oral and Maxillofacial Surgery. The fact that the Chair of Oral and Maxillofacial Surgery is Head of the Department of Stomatology symbolises the stomatological concept of dental education and practice in Estonia.

Parallel to the organisational structure of the Department of Stomatology is the recently founded (01-01-2000) Dental Clinic and the Centre of Prostodontic Dentistry which provides all educational and professional clinical services independently from the University Department of Stomatology, but with the same structural sections as the disciplines of the University Department of Stomatology. This structure guarantees clear responsibilities, confidence in functioning units, transparency in organisation, clear separation of different interests and ensures that quality of teaching, training and scientific research will not be unduly influenced by probable economic restraints.

Effective implementation of this concept is jeopardised by unexpected and extreme budget cuts.

Section 4 - Staff

4.1 Academic Staff and Qualifications

Within the Department of Stomatology there is an academical hierarchy with a (full) professor at its head. At the secondary and tertiary level are docents and lecturers respectively. There are 19 full-time and 4 part-time academic staff. Table 4 gives an overview of academic staff, their qualifications, auditory duties and contract time equivalents. Full-time includes 20% time-equivalent for private practice, extramurally, as compensation for lower income at the university in comparison to non-governmental dental practice.

DEPARTMENT				
NAME	QUALIFICATION	FUNCTION	AUDITORY HOURS	FTE
ORAL AND DENTAL DISEASES				
Mare Saag	MD; PhD	Docent	380	1.00
Taavo Seedre	MD; PhD	Docent	190	0.50
Ruth Vasar	MD	Lecturer	190	1.00
Ene-Renate Pähkla	DMD	Lecturer	190	1.00
Taive Koppel	DMD	Lecturer	190	1.00
Marek Vink	DMD	Lecturer	190	1.00
Lauri Vahtra	DMD, MSc (periodontology)	Lecturer	95	0.50
PAEDIATRIC DENTISTRY AND ORTHODONTICS				
Rita Nõmmela	MD, PhD (Orthodontics)	Docent	380	1.00
Triin Jagomägi	MD, Msc (Orthodontics)	Lecturer	95	0.50
Silvia Russak	MD, PhD	Docent	95	0.25
Jaana Olak	MD (PhD-student)	Lecturer	95	0.50
PROSTHETIC DENTISTRY				
Olev Salum	MD, Dr.med.Sc.	Docent	380	1.00
Eve-Maaja Metsa	MD	Lecturer	190	1.00
Andres Korrovitš	MD	Lecturer	190	1.00
Iive Koll	MD	Lecturer	95	0.50
Aare Viirsalu	MD	Lecturer	95	0.50
Piret Kõll-Klais	DMD (PhD student)	Lecturer	95	0.50
ORAL AND MAXILLOFACIAL SURGERY				
Edvitar Leibur	MD, PhD, Dr.med.Sc., Dr.h.c.	Professor	380	1.00
Maie Lõvi-Kalnin	MD, PhD, Dr.med.Sc.	Professor em.	-----	-----
Marianne Soots	MD	Lecturer	190	1.00
Aili Tuhkanen	MD	Lecturer	190	1.00
Ülo Pintson	MD	Lecturer	190	1.00
Tiia Tamme	MD (PhD-student)	Lecturer	95	0.50

Table 4: Overview of the academic staff, their qualifications, duties and contract time equivalents.

4.2 Staff Development

Teaching duties of staff are inventoried and reviewed annually. Staff are encouraged and supported to visit international congresses, which is essential for developing the educational perspectives of dental training and education.

Young staff are encouraged to study for a PhD. As a rule, a PhD-study will take 4 years. Staff can be matriculated either after successful participation in a specialist training programme (lasting 3-5 years) or - without special qualification - after 3 years of general dental practice. Study ends with the qualification "Doctor Medicinae".

Strengths

- The staff we met in the medical and dental departments were all particularly enthusiastic and committed to the dental students.
- There is a strong leadership and advocacy for quality in teaching and change management.
- Strong groups and institutional legality.

Weaknesses

- No individual tutor/mentorship for students.
- An impression of strong individuals and groups with limited collaboration between staff in terms of procedures, knowledge and views/opinions.

VISITORS COMMENTS - SUMMARIZING VIEW (Section 4)

Although staff of the Department of Stomatology is divided into five disciplines it is a team with good corporate identity. Staff are well motivated, dedicated to high quality of dental education, practice and personal career development. Because of this, staff seem to be well adapted to new structures and developments.

The numbers of staff are not generous especially taking into account the competing pressures of clinical practice (including extramural private practice for personal income), teaching and research.

Section 5 – The Biological Sciences

5.1 Medical Biochemistry

INFORMATION GIVEN BY THE SCHOOL

Staff names, qualifications and email addresses

Professor Mihkel Zilmer, PhD, MD, Head of Department of Biochemistry,
e-mail: zilmer@ut.ee

Professor Tiiu Vihalemm, PhD, Associate professor of Department of Biochemistry
e-mail: tiiuvi@ut.ee

5.1.1 Introduction

Medical Biochemistry is taught in two courses:

- **Medical Biochemistry I** (3 Credit Points) is part of the course of Medical Biology (6 Credit Points) joining Biophysics (2 Credit Points) and Physics (1 Credit Points). The course is scheduled in the 2nd semester. The programme is arranged from 14 lectures (2 hours each) and 14 problem-oriented seminars/ practical trainings (3 hours each). It is completed by a written examination.
- **Medical Biochemistry II** (3 Credit Points) is scheduled in 3rd semester, has 12 lectures (2 hours each), 16 problem-oriented seminars/practical trainings (3 hours each) and is completed with an oral examination.

5.1.2 Primary Aims

- To give an updated discussion of the selected and in clinical practice relevant knowledge about human body biomolecules and the metabolic events, underlying the specific functions of cells of the human body and disorders, including main stomatological diseases.
- To give an updated basics of nutrition (including food additives, supplements, sweeteners), metabolism of saliva, extracellular matrix and bone (tooth) and disorders of calcium and phosphate metabolism.

5.1.3 Main Objectives

- To introduce students with the selected chapters of Medical Biochemistry required for further learning of Physiology, Pharmacology, Microbiology, Immunology etc.
- To give the core knowledge about the structure and functions of the basic bio-molecules in human body. To give a selected information about DNA technology and gene therapy.
- To study the metabolic reactions and the metabolic interrelationships. The role of hormones in the regulation of the metabolism.
- Biological membranes: structure and membrane transport.
- Bioenergetics and oxidative metabolism. Oxidative stress and diseases.
- Principles of nutrition: the absorption and storage of macro- and micronutrients, dosage, the beneficial effects on ailments, the toxicity of micronutrients etc.

- Biochemistry of saliva (defence factors of human saliva and the development, composition and metabolism of dental plaque)
- Biochemistry and disorders of connective tissue and bone.

5.1.4 Hours in the Curriculum

• Medical Biochemistry I

- 28 auditorial hours;
- 52 hours problem-oriented seminars/practical training.

• Medical Biochemistry II

72 auditorial hours:

- 24 lecture hours;
- 48 hours of problem-oriented seminars/practical training.

5.1.5 Method of Learning/Teaching

Problem-based lectures and a problem-oriented seminars/practical work push the students to develop biochemical-stomatological thinking.

5.1.6 Assessment Methods

Test papers, sum of practical exercises and seminars evaluations, written summaries on the special topics and in the case of need – preliminary examination.

5.1.7 Strengths

New, original and strongly Medical Biochemistry oriented textbooks and CD-ROMs in Estonian and English language.

- Zilmer M, Soomets U, Karelson E, Starkopf J, Vihalemm T, Zilmer K, Rehema A: Introductory Chapters of Medical Biochemistry (M Zilmer, E Karelson, Eds.). Tartu: Tartu University, Dept of Biochemistry, Biomedikum, 2000 (CD-ROM in English).
- Zilmer M, Karelson E, Vihalemm T, Soomets U, Starkopf J, Zilmer K, Rehema A: Medical Biochemistry I. Biomolecules: biochemical and medical aspects (M Zilmer, Ed.). Tartu: Tartu University, Biomedikum, 2000 (CD-ROM in English).
- Zilmer M, Karelson E, Vihalemm T: Medical Biochemistry II. Human metabolism and diseases: biochemical and medical aspects. (M Zilmer, Ed.). Tartu: Tartu University Press, 1999
- Kokassaar U, Vihalemm T, Zilmer M: Impact of food (M Zilmer, U Kokassaar, Eds.) Tartu: Tartu University, Biomedikum, 1999 (Internet book: <http://www.healthilife.ee>)
- Teesalu S, Vihalemm T: Digestion, nutrition and diets (I-O Vaasa, Ed.). Tartu: Tartu University Press, 1998 (2nd edition), 273
- Zilmer M, Karelson E, Vihalemm T: Medical Biochemistry I. Biomolecules: biochemical and medical aspects (M Zilmer, Ed.). Tartu: Tartu University Press, 1996, 321
- Zilmer M, Vihalemm T, Kokassaar U: Food - antioxidativity, oxidative stress, preventive manipulations (M Zilmer, Ed.). Tartu: Avita, 1995, 71.

5.1.8 Weaknesses

No information given.

5.1.9 Innovations and Best Practices

Small groups (8 to 12 students) in practical exercises and seminars. As medical education is changing rapidly, the curricula are adapted towards problem-oriented teaching, delivering the clinical relevant knowledge and pushing the students to develop biochemical-medical thinking in the seminars.

5.1.10 Plans for Future Changes

- To write a original textbook or CD-ROM within one year about metabolism of saliva and bones tissues in normal healthy situation and in the case of typical stomatological disorders;

- To increase the amount of information concerning the DNA technology in the curriculum, the diagnosis of genetics defects and gene therapy;
- To introduce a special part of course on biochemistry of drugs and material used in stomatological practice;
- To develop special tests for students on homepage of Department of Biochemistry.

5.2 Molecular Genetics (Biology)

INFORMATION GIVEN BY THE SCHOOL

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

Professor Gunnar Tasa, PhD, Head of Department of Molecular Genetics

e-mail: gtasa@ut.ee

5.2.1 Introduction

The course of molecular genetics (biology) is mostly organized in the form of discussions and practical work in the lab to introduce students to the world of modern molecular genetics. The theoretical part of the lessons is available in the Internet (<http://www.ut.ee/~gtasa>) and students are requested to go through it before they enter to the laboratory of molecular genetics.

During seminars the following subjects will be discussed: Organization of genetic information in the cell, composition of DNA, structure of a gene, regulation of gene expression, mutation analysis, methodology enabling to discover new genes (association studies, linkage analysis and cloning of genes).

In the lab every student has a possibility to genotype a neutral polymorphism of his own at a DNA level. They isolate DNA from the whole blood. The purified DNA is later used by the students for amplification in PCR reaction, followed by electrophoresis in agarose gel. After the first experience in genotyping, a DNA from patients suffering from a certain genetic disease is given to students and they perform a mutation analysis using digestion with restriction endonucleases and electrophoresis in acrylamide gel. Principles of DNA sequencing are introduced also and the methodology is demonstrated in the capillary sequencer ABI PRISM 310. Finally, application of DNA analysis in the clinical lab for diagnosis of different non-genetic diseases (infectious diseases, malignant processes etc) and identification of individuals is demonstrated. In the last seminar a summary is made from the present state of the human molecular genetics and it is discussed what is known about the genetics of widely spread diseases.

5.2.2 Primary Aims

- To introduce students the methodology used nowadays in scientific and clinical laboratories of DNA;
- To help understand young doctors the genetic literature, which is an important part of scientific literature in every field of medicine.

5.2.3 Main Objectives

To understand

- the structure and functioning of DNA in living organisms;
- mutation analysis using PCR, electrophoresis, restriction analysis and sequencing of DNA;
- the methodology used to find new genes:
- the applications of DNA methodology in practical medicine.

5.2.4 Hours in the Curriculum

20 auditorial hours:

- 10 hours of seminars;
- 10 hours of practical work in the laboratory of molecular genetics.

5.2.5 Method of Learning/Teaching

Discussions and practical work.

5.2.6 Assessment Methods

- Checking of theoretical knowledge before the beginning of practical works by written tests in a formative format;
- Written test at the end of the course (summative).

5.2.7 Strengths

Practical approach, students can not only hear, how the DNA is studied in the advanced labs, but everybody can go through the basic methodology by himself.

5.2.8 Weaknesses

For persons knowing not much about the basic principles of genetics can be difficult to understand all the lessons.

5.1.9 Innovations and Best Practices

No information given.

5.1.10 Plans for Future Changes

No information given.

5.3 Genetics

INFORMATION GIVEN BY THE SCHOOL

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

Professor Aavo-Valdur Mikelsaar, PhD, MD, Head of Department of Genetics

e-mail: valdur@ut.ee

5.3.1 Introduction

In the 1st year genetics is a part of biology. Lectures concerns about formation of genetics, the molecular basis of genetics (compare the curriculum of Molecular Biology), mutagenesis, Mendelian inheritance, X-linked inheritance, human karyotype and chromosomal aberrations, Morgan's law and gene mapping, population genetics.

Practical training gives insight in the aspects of sex chromatin, polytenic and human chromosomes: karyotyping, differential staining and genetic tasks.

The 4th year focuses on medical genetics. Lectures are presented about Mendelian diseases, mitochondrial diseases, chromosomal aberrations, multifactorial diseases, genetic consultation, gene therapy and ethical problems in genetics. Practical training is concerned with karyotyping and identification of aberrant chromosomes, identification of syndromes using POSSUM and OSSUM and molecular genetic diagnostics (DNA purification, PCR, electrophoresis, hybridization and restriction analysis).

5.2.2 Primary Aims

To give the students a general picture about the genetic problems, some practical skills in karyotyping, molecular and syndrome diagnostics.

5.1.3 Main Objectives

No information given.

5.1.4 Hours in the Curriculum

1st year: 48 auditorial hours

- 34 lecture hours;
- 14 hours of practical training.

4th year: 40 auditorial hours:

- 20 lecture hours;
- 20 hours of practical training.

5.1.5 Method of Learning/Teaching

No information given.

5.1.6 Assessment Methods

No information given.

5.1.7 Strengths

No information given.

5.1.8 Weaknesses

No information given.

5.1.9 Innovations and Best Practices

No information given.

5.1.10 Plans for Future Changes

No information given.

5.4 Immunology**INFORMATION GIVEN BY THE SCHOOL****Person in School who will explain and show this to the visitors:**

Professor Raivo Uibo, PhD, Head of Department of Immunology

e-mail: raivo.uibo@ut.ee

Staff names, qualifications and email addresses

Dr. Tamara Vorobjova

Dr. Kalle Kisand

Dr. Kai Kisand

Koit Reimand, assistant

e-mail: reimand@ut.ee

5.4.1 Introduction

The course of immunology is part of the 2nd year curriculum in the 4th semester. It offers basic knowledge about the function of the immune system in normal and typical pathological conditions (infection, allergy, autoimmunity, cancer, transplantation, immunodeficiency), shows how to evaluate the immunological status of the person and how the immune system function could be modulated.

5.4.2 Primary Aims

To offer theoretical knowledge about immune system function and immunodiagnostics.

5.4.3 Main Objectives

Diseases where immune system function changes are involved are rather common – according to WHO/IUIS/IAACI report (1992) up to 20 % of the population have such diseases. The number of clinical conditions related to abnormal immune system function is increased (allergy). New clinical situations (transplantation is common, new artificial materials, use of cytokines in treatment, new vaccines, DNA therapy etc.).

5.4.4 Hours in the Curriculum

48 auditorial hours:

- 24 hours for lectures;
- 24 hr. for seminars and practical training (immunodiagnostics).

5.4.5 Method of Learning/Teaching

Lectures, seminars on specific topics (problem-oriented: infection, allergy etc.), practical training with immunodiagnostic test demonstrations, one problem-oriented seminar based on a contemporary scientific paper.

5.4.6 Assessment Methods

Two formative MCQ-tests (basic immunology; immunopathology and immunodiagnostics, written examination (3-4 topics)

5.4.7 Strengths

The curriculum is based on continuously updated lecture and seminar materials (using new textbooks and scientific journals) and on materials obtained from department's research laboratory.

5.4.8 Weaknesses

Practical training is used in very limited dimensions (materials are very expensive); there are limited possibilities for computer-aided research (programmes so far in English).

5.4.9 Innovations and Best Practices

Electives: Students can choose additional, immunology curriculum related topics – for example (1) Clinical immunology laboratory (20 hours), (2) Basic knowledge in immunology research (120 hours).

5.4.10 Plans for Future Changes

To finish an immunology textbook for students (in Estonian);

To develop for students a programme for computer-aided distance learning in immunology (using suggestions of European Clinical Immunology Group, Education Committee of International Union of Immunological Societies – the Head of Department is member of both organisations).

VISITORS COMMENTS – SUMMARISING VIEW (Section 5)

The Department of Biochemistry is extremely well equipped, teaching and training facilities are excellent, but laboratory capacity is 24 students (vs. cohort size of 30). In consequence, practical training must be repeated.

A compliment must be addressed to its teachers who avoid focusing on medical topics only; exciting dental-oriented exercises are scheduled in the curriculum.

Because there is a lack of time to transfer all the available knowledge of the disciplines, traditional (books) and modern vehicles (CD-ROMs) are produced. This is done with great enthusiasm, high professionalism and humour (there is an old Estonian song on a CD-ROM).

There is also an enthusiastic willingness to use modern educational formats such as problem-based learning.

Nevertheless, there is a problem with the interpretation of the cognitive principles of problem-based learning; traditional aspects of objectivism compete with modern principles of constructivism; i.e.

- Knowledge is absolute *versus* knowledge is worked out by students themselves
- Knowledge is collected scientifically, because scientifically collected knowledge is true *versus* knowledge is based on student's understanding
- Knowledge is equivalent with facts and objectivity *versus* students build cognitive structures by interaction

So, there is a need for understanding that in the problem-based format knowledge will never be transferred, students will never be taught, knowledge never will be "delivered" and students never will be "pushed", but that students will "only" have the opportunity to learn. Giving students the opportunity to learn could result in interdisciplinary courses that are not only time-efficient, but also have an optimal study load.

Section 6 - Pre-Clinical Sciences

6.1 Anatomy

INFORMATION GIVEN BY THE SCHOOL

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

Helle Tapfer

e-mail: htapfer@ut.ee

Staff names, qualifications and email addresses

Ass.Prof.H.Tapfer MD, PhD Chair of Institute of Anatomy

Ass.Prof. A.Liigant Md, PhD

Prof.E.Sepp MD, PhD, D med Sc.

Assistant Elle Põldoja MD

Assistant Kersti Kokk, MD

6.1.1 Introduction

The curriculum of anatomy for stomatology students has duration of one academic year. On the first semester is taught the systematic anatomy which is integrated with histology, on the second semester-dissection course, topographical anatomy and clinical anatomy.

6.1.2 Primary Aims

- The program of anatomy for stomatology students have to be explained on the problems concerning the face, neck, mouth, the topographical and clinical aspects and development of the orofacial structures.
- The main method of learning of anatomy must be the dissection course, which gives the true practical skills and special imagination of the regions of the face and neck.

6.1.3 Main Objectives

- Confront the students with many different problems and methods of anatomy
- To introduce the necessary of dissection course
- To integrate the histology and anatomy teaching
- To integrate morphological and clinical teaching
- To train practical skills (dissections) and stimulate scientific and clinical interest
- To stimulate an attitude beneficial to the medical profession

6.1.4 Hours in Curriculum

Anatomy is taught in amount 7, 5+2 credit points (CP), 7,5 Cp as systematic and topographical anatomy with dissection course,2 CP for clinical anatomy, 1 CP equal to 40 hours. The overall hours of the obligatory anatomy 252 hours.

6.1.5 Method of Learning/Teaching

Duration of anatomy teaching throughout two semesters. In the first semester 1-hour lecture and 6 hour practical training per week. In the 2-semester 1 hour lecture and 8 hours practical per week. On the second semester take part voluntary dissection course 24 h. The practical training have obligatory attendance for all students. Practical training are used to learn natural preparates, models and have specific skills. We have collection of museum preparates of anatomy (1,000), established by the A.Rauber 1890. The chief method must be the dissection, which gives the practical skills and spatial imagination of the regions of the face and neck.

6.1.6 Assessment Method

The written and practical tests throughout both semesters on the natural prepares. All together control tests-4 preliminary examinations on the first semester and 4 on the second semester. Final examination at the end of the second semester - written and practical tests.

6.1.7 Strengths

We have never stopped the dissection course as we are the inheritors of the famous Raubers School of Anatomy. The chief methods of learning of anatomy must be the dissection, which gives the practical skills and space imagination of the regions of the face and neck. We have never stopped the dissection for stomatology students.

6.1.8 Weakness

During the two years, the dissection course, on the base of the new curricula has remain as the elective course (24h), but we still continue the preparation-the students like and always choose it.

6.1.9 Innovations

Compose and include the original material for practical training.

6.1.10 Plans for the Future

To find the hours for traditional dissection course for stomatology students-the dissection of head and neck. Increase the possibilities for preparations compose the Estonian textbooks for sto-matology students. Complete computer-based learning programs.

6.2 Physiology

INFORMATION GIVEN BY THE SCHOOL

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

Jana Kivastik, MD, Assistant, Department of Physiology, e-mail: jana.kivastik@ut.ee

Staff names, qualifications and email addresses

Andres Soosaar, MD, PhD , Docentadress@ut.ee

Jana Kivastik, MD; jana.kivastik.@ut.ee

Vello Pert Md, PhD

6.2.1 Introduction

As usual the Human Physiology course is among basic courses in pre-clinical part of dentistry curriculum. Physiology is a natural continuation after anatomy, biophysics and biochemistry courses to study body functions on more complex level.

6.2.2 Primary Aims

- Overview of body functions, regulatory principles generally and introduction of special topics, which are important in dentistry.
- Training of skills of biomedical investigations, problem solving and biomedical thinking.

6.2.3 Main Objectives

- Overview of general principles of body functioning, physical, chemical and informational bases of life processes.
- Overview of main regulatory principles of body functioning.
- Overview of main body functions on the basis of the organ system perspectives.
- More profound study of CNS and gastrointestinal systems and certain metabolic processes which have real practical outcome for dentistry practice.
- Introduction and training of classical and modern physiological methods of investigation.
- Training of biomedical thinking and problem solving abilities, mainly oriented to regulation and real integration of different organ systems.

6.2.4 Hours in the Curriculum:

The 3rd semester: 2 hours of lecture and 3 hours of practical work or seminar per week

The 4th semester: 4 hours of lecture and 2 hours of practical work or seminar per week

6.2.5. Method of Learning/Teaching

Our medical school follows the classical way of medical and dentistry studies. Main forms of teaching of physiology are lectures, seminars and laboratory works. Compulsory participation in seminars and laboratory classes by students is required.

6.2.6. Assessment Methods

The knowledge and skills of students are assessed: routinely at the end of every practical work; in seminars; by 6-7 tests with longer essay questions at the end of every bigger chapter of theoretical material, and at the final written examination. Results are expressed according to the official rules of the university (ranging of A-F grades, etc.)

6.2.7. Strengths

As our teaching style follows the classical style, we have its strengths and weaknesses. Our course is very much oriented to general understanding of human body functioning, not limiting ourselves only to the important dentistry topics. We have quite good repertoire of practical works to study physiological methods.

6.2.8. Weaknesses

As common to the classical style we need to enhance more students self activity. To do this we need to add more problem solving tasks into the class activities. Another important problem is our situation with laboratory equipment which needs modernization in many items. A deficit of new textbooks and other published materials on oral physiology. Few number of practical works related to oral physiology.

6.2.9 Innovations and Best Practices

- Measurement of forced vital capacity using volume-time and flow-volume scales.
- Indirect calorimetry by Douglas-Haldane.
- Polycardiography and phases of heart ventricular cycle.
- Study of features of nerve tissue by the Simnerv interactive software.

6.2.10 Plans for Future Changes

- To modify the assessment system to increase the impact of everyday work.
- To improve teaching of oral cavity physiology in direction of more activity.
- Design and preparation of some new practical works specially oriented to oral physiology.

6.3 Histology

INFORMATION GIVEN BY THE SCHOOL

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

Andres Arend

e-mail: arend@ut.ee

Staff names, qualifications and email addresses

Andres Arend, MD,Ph.D, assoc. prof., e-mail: arend@ut.ee

Peeter Roosaar, MD,Ph.D., assoc. prof.

Piret Hussar, MD, assistant

Toivo Suuroja, Ph.D., Dr.Vet.Sci., professor of Estonian Agricultural University, visiting lecturer

6.3.1 Introduction

Histology for stomatology students is taught throughout the first year of their studies. First semester is dedicated to the general histology and the second semester to the special histology (microscopic anatomy).

6.3.2 Primary Aims

to lead the students to understand microscopic structure of cells, tissues, and organs and to correlate structure to function.

6.3.3 Main Objectives

- to familiarize students with methods applied in histology
- to give experience of microscopy
- to explain the interpretation of tissue sections of histological slides
- to learn the cell structure
- to give the overview of basic structure of four main tissues: epithelial tissue, connective/supportive tissue, muscular tissue, and nervous tissue
- to learn the stages of human embryonal development
- to learn the microscopic anatomy of all organ systems
- to pay increased attention to the histology of structures in the oral cavity

6.3.4 Hours in the Curriculum

Histology is taught in amount of 5 credit points (CP), 2 CP as General Histology and Embryology in the subject block Medical Biology I and 3 CP as Histology in the subject block Anatomy and Histology. One credit point equals to 40 hours, thus the overall hours of the obligatory part of histology is 200, as the number of classroom hours yielding one CP is 24 that makes 120 hours of active classroom work in histology. Additionally, Chair of Histology offers elective courses: Immunohistology, 0,5 CP; Histological techniques, 0,5 CP; Early stages of human development, 0,5 CP; Morphology of oral cavity and teeth, 0,5 CP

6.3.5 Methods of Learning/Teaching

Histology is taught by means of lectures and practical classes. In the first semester 1-hour lecture and 2 hours of practical training per week are held, in the second semester 2 hours of lectures and 3 hours of practical training per week take place. During the practical training students have to master with 107 histological slides.

6.3.6 Assessment Methods

Written tests throughout both semesters, preliminary examination after the first semester and the final examination at the end of the second semester.

6.3.7 Strengths of histology teaching involves the relatively large number of hours of practical training, modern teaching facilities combined with large demonstration collection of histological slides collected throughout the decades and the availability of histology textbooks in Estonian including the Histology of Oral Cavity and Teeth specifically designed for stomatology students

6.3.8 Weaknesses in histology teaching concerns shortage of some specific histological slides.

6.3.9 Innovations and Best Practices include creation of original aid materials for practical training based on the same histological slides, which the students are studying.

6.3.10 Plans for Future Changes

aim to renew students' slide collections, to complete computer-based learning program for students individual work with histological slides, to compose new histology textbooks in Estonian and to further integrate histology teaching with human biology and anatomy.

VISITORS COMMENTS – SUMMARISING VIEW (Section 6)

Teaching of these subjects takes place in a newly constructed, purpose built multistory building which is on a separate site to both the dental and prosthetic clinics on the edge of the town centre. It includes both pre and paraclinical sciences and has enviable facilities for teaching and research.

The staff have an obvious enthusiasm for their respective subjects, enjoy teaching the dental students and make full use of the new facilities. This commitment and dedication is clearly a strength of the course. A further strength is the use of elective study modules, although the visitors recommend that oral and dental modules become obligatory, at the expense of existing elements of the course, and that a further reduction of scheduled time be considered to allow the students more reflective time.

There is also a heavy examination load, and the visitors suggest that consideration be given to some amalgamation of assessment.

Section 7. -Para-clinical Sciences

7.1 Pharmacology

INFORMATION GIVEN BY THE SCHOOL

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

Alexander Zharkovsky (professor of Pharmacology and Toxicology)

e-mail: alex@madli.ut.ee

Staff names, qualifications and email addresses

Head: Professor Lembit Allikmets

Professor Alexander Zharkovsky Head Division of Pharmacotherapy and Toxicology

e-mail: alex@madli.ut.ee

assistant: Dr. Anti Kalda

e-mail: antik@ut.ee

7.1.1 Introduction

The course covers basic concepts of pharmacology and most drug groups which have clinical significance. Course is given during 3rd year (5th semester). and consists of 32 hours of lectures and 48 hours of seminars and practical problem-based exercises.

7.1.2 Primary Aims

This course is aimed to give

- fundamental understanding of the pharmacodynamic action of drugs most commonly used in medical practice. The emphasis is made on the groups of drugs widely used in the dental practise (local anesthetics, chemotherapeutics, analgesics, cardiovascular drugs).
- fundamental knowledge on principles of toxicology and drug metabolism and kinetics.

7.1.3 Main Objectives

- to understand basic terms and concepts of pharmacology, like the types of receptors and drug specificity.
- to understand the mechanisms involved in a pharmacological response produced by drug molecules
- to clarify harmful effects of drugs and certain chemicals, i.e. different types of drug toxicity, general mechanisms of cell damage and death (hepato- and nephrotoxicity), mutagenesis, carcinogenicity, teratogenesis and allergic reactions
- to understand basic pharmacokinetic mechanisms: absorption, distribution, biotransformation and excretion of drugs; pharmacokinetic models and parameters.
- to acquire knowledge on the main topics as

- Cardiovascular pharmacology
 - Pharmacology of central nervous system (Psychopharmacology, analgesic drugs, antiepileptics, Parkinsonian drugs etc)
 - Pharmacology of pain and inflammation
 - Pharmacology of endocrine systems
 - Pharmacology of respiratory system
 - Antimicrobial agents
 - Treatment of cancer
 - Principles of drug toxicology
- furthermore, student should have at least some preliminary knowledge of pharmacology and toxicology in areas such as drug abuse, "natural" drugs and "alternative approaches", drugs and society, risk assessment and so on.

7.1.4 Hours in the Curriculum

No information given.

7.1.5 Method of Learning/Teaching

Lectures (32 hours) are given by professor once a week (2 hours; 16 weeks).

Seminars (36 hours) are given by tutor and based on the problem based teaching methodology. Each student should prepare at least one essay, which is presented by him/her (20-30 min) followed by group discussions.

Laboratory practical training are given to students as computer-simulated presentations followed by group discussion.

7.1.6 Assessment Method

Interim examinations (12 hours) based on the multiple choice questionnaires.

Final examination (3 hours) based on the multiple choice questionnaires and essay type questions.

7.1.7 Strengths

- Relatively good theoretical understanding of the principles of drug actions
- Broad use of computer-based teaching.

7.1.8 Weaknesses

Lack of facilities to conduct laboratory practical training.

7.1.9 Innovations

Completion of Electronic text-book in Estonian (WEB address:<http://phacell.med.ut.ee>)

Implementation of computer-based teaching

7.1.10 Plans for Future Changes

Broader use of computers. Lecture material will be put onto WEB-site in the Power-Point format.

Use of computer simulation of laboratory work.

Self-assessment questionnaires using computer simulation.

7.2 Microbiology

INFORMATION GIVEN BY THE SCHOOL

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

Marika Mikelsaar e-mail: marikam@ut.ee

Staff names, qualifications and email addresses

Marika Mikelsaar, MD, PhD, D med Sc, Head of Department of Microbiology, Professor

Tatjana Brilene, MD, PhD, docent, Department of Microbiology

7.2.1 Introduction

No information given.

7.2.2 Primary Aims

1. Study of general issues of microbiology
 - bacteriology
 - microbial taxonomy, physiology, genetics; normal microflora of oral cavity
 - anaerobes and aerobes (dental pathogens)
 - antimicrobial agents and susceptibility testing; effect of antibiotics on micro-organisms and drug resistance, especially in oral cavity pathogens
 - general principles of infection;
 - immunology; the immune response in periodontal disease
 - mycology
 - parasitology
 - virology
2. Study of clinical infections, diagnosis, treatment and prevention of infectious diseases
 - Staphylococcal and Streptococcal infections
 - respiratory tract infections(diphtheria, pertussis, tuberculosis)
 - infections of dental origin (periodontitis, gingivitis, bacteriemia)
 - specimen collection in oral cavity (from gingival pockets, dental root canals)
 - foodborne and waterborne infections
 - sexually transmitted infections
 - zoonoses
 - viral infections

7.2.3 Main Objectives

No information given.

7.2.4 Hours in the Curriculum

No information given.

7.2.5 Methods of Learning/Teaching

Microbiology course is 96 h . We start work at 1 September:

- 8 h by week for each student (4 h lecture and 4 h for practical study)
- individual work and seminars
- 4 written tests during the course

Facultative course 12 h.: "Stomatological infectious diseases"

7.2.6 Assessment Methods

Assesment mark grade - from A (excellent, 91-100%) to F (nonsufficient, 0-50%)

Preliminary examination for practical microbiology :

- Basic laboratory procedures
- preparation and staining of specimens
- recognition of different pathogens microscopy
- culture media for specific groups of microorganisms

Examination in written form separately for general principles of microbiology, bacterial and viral infectious diseases.

7.2.7 Strengths

No information given.

7.2.8 Weaknesses

No information given.

7.2.9 Innovations and Best Practices

- new building with new possibilities for teaching
- computers, videosystems, books projector at lecture rooms
- new laboratory technical equipment microscopes, anaerobic chamber, electroforesis, mole-ular methods

7.2.10 Plans for Future Changes

No information given.

7.3 General pathology

7.3.1 Pathological Anatomy

INFORMATION GIVEN BY THE SCHOOL

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

professor Raik-Hiio Mikelsaar e-mail raik@ut.ee

Staff names, qualifications and email addresses

Mikelsaar, Raik-Hiio MD, PhD, Dmed Sc, professor
 Tamm, Hannes - MD, assistant
 E-mails: raik@ut.ee, hannpc@ut.ee

7.3.1.1 Introduction

The course is in the form of seminars, discussions and practical work in the lab to introduce and study the macro- and micropreparates with various pathology. On the 4th and 5th semester a course of pathological anatomy is taking place. On 9th semester - autopsy analysis.

7.3.1.2 Primary Aims

to give fundamental conceptions on general and systematic pathology

7.3.1.3 Main Objectives

General pathology: alterative, inflammatory and proliferation-differentiation changes

Systematic pathology: oral and dental, cardiovascular, respiratory, gastrointestinal, blood, urogenital, endocrinic and infection diseases.

7.3.1.4 Hours in the Curriculum

Pathological anatomy: lecture-seminars - 32 hours

practical works - 64 hours

Autopsy analysis - 16 hours

7.3.1.5 Method of Learning/Teaching

Lecture-seminars and practical works

7.3.1.6 Assessment Methods.

- checking of theoretical knowledge before the beginning of practical works
- written tests
- exam on the 5th semester

7.3.1.7 Strengths

- Practical approach - every student gets thematic material for histological study using microscope
- New laboratory technical equipment

7.3.1.8 Weakness

No information given.

7.3.1.9 Innovations

- new building with new possibilities for teaching:
- *computers, videosystems, books projector at the lecture rooms
- new laboratory technical equipment

7.3.1.10 Plans for the future

Implementation of computer-based teaching

7.3.2 Pathological Physiology

INFORMATION GIVEN BY THE SCHOOL

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

Kalju Paju e-mail: kalju@ut.ee

Staff names, qualifications and email addresses

Enn Seppet, professor, Ph.D., M.D.	e-mail: enn@ut.ee
Kalju Paju – docent, Ph.D., M.D.	e-mail: kalju@ut.ee
Ehte Orlova – lecturer, Ph.D., M.D.	e-mail: orlova@ut.ee
Anneli Beilmann – lecturer, Ph.D., M.D.	
Urmo Braun – postgraduate student, M.D.	e-mail: urmo@rubiin.physic.ut.ee

7.3.2.1 Introduction

Pathophysiology is the study of the physiologic and biologic manifestations of disease and the adaptations that the body makes to the changes produced by the disease process.

The students who successfully pass this course of the study will be acquainted with the etiology and pathogenesis of basic syndromes and diseases on the level of organism, organ, tissue, cell and molecules.

Timing in the curriculum: 5th term.

Prerequisite subjects: anatomy, physiology, biochemistry.

7.3.2.2 Primary Aims

To introduce to undergraduate students:

- Etiology and pathogenesis of basic pathogenic mechanisms of diseases and main syndromes.
- How human body adapts the stresses of life and disease-causing stimuli.

7.3.2.3 Objectives

Educational objective of this area for student is:

- To understand mechanisms of typical pathological processes.
- To understand metabolic changes during disease.
- To understand the causes and the basic pathogenic mechanisms of main syndromes.
- To understand the changes in function that produce signs and symptoms.
- To understand the causes and the basic pathogenic mechanisms of diseases.
- To understand the changes in function that produce disease.
- To understand compensatory mechanisms of organism during disease.
- To understand the connections of pathobiology and changes in function of organs during disease.

7.3.2.4 Hours in the Curriculum

Lecture hours - 32.

Practical /laboratory works and seminars – 64 hours

Credits – 4.0

7.3.2.5 Methods of Learning/Teaching

- Lectures.
- Seminars with case studies.
- Short illustrated lectures from students during seminars.
- Seminars: discussion about mechanisms of disease.
- Laboratory works: introduction of methods and results of scientific work in our Department.
- Laboratory works: investigation of biomaterials (mainly blood) from patients with different diseases.
- Laboratory works: some simple experiments on laboratory animals.
- Independent learning and tests.

7.3.2.6 Assessment Methods

3 tests during 5th term.

Written exam at the end of 5th term.

7.3.2.7 Strengths

- Laboratory/practical works with clinical biomaterials.
- Long traditions of teaching pathophysiology (more than 50 years).

7.3.2.8 Weakness

Lack of textbooks written in Estonian language.

7.3.2.9 Innovations and Best Practices

- With the aid of high quality of audiovisual teaching systems we can perform teaching process more actively.
- Laboratory works with introduction of methods and results of scientific work in our Department.

7.3.2.10 Plans for Future Changes

Modern educational trends are in favour of more active learning. Multimedia computer systems in lecture hall (Ravila 19-1024) and seminar/laboratory room (Ravila 19-1016) will be able to perform more active learning/teaching process. Interactive computer programs should be used in seminar form of teaching and during students homework (in computer class).

Writing and publishing a textbook on second half of year 2000.

In future we shall make some attempts in integrative teaching of clinical medicine with underlying pathobiology of disease.

VISITORS COMMENTS SUMMARIZING VIEW (Section 7)

These subjects are taught by enthusiastic medical teachers who benefit from the splendid new Biomedicum facilities. There seemed to us to be scope for further developing interests in the oral aspects, and especially in joint research with dental staff limited only by the numbers and pressure on the time of such staff.

Section 8 - Human Diseases

8.1 Internal Medicine (General Medicine)

INFORMATION GIVEN BY THE SCHOOL

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

Riina Salupere

e-mail: Riina.Salupere@kliinikum.ee

Curriculum Overview:

- Internal Medicine Propedeutics: 18 h
- Internal Medicine: divided into:

Cardiology:	26h: lectures	10h, practical training	16h
Gastroenterology	12h: lectures	6h, practical training	6h
Nefrology	6h: lectures	3h, practical training	3h
Haematology	8h: lectures	4h, practical training	4h
Rheumatology	8h: lectures	5h, practical training	3h
Pulmonology	10h: lectures		10h
Endocrinology	8h: lectures	5hpractical training	3h

8.1.1 Cardiology

8.1.1.1 Introduction

Part of course Internal Diseases

Time: 6.semester

8.1.1.2 Primary Aims

Review of basic principles of diagnosis, therapy and prevention of heart diseases.

8.1.1.3 Main Objectives

- Train to assess relationship between heart diseases and dental (stomatological) diseases.
- Assessment of functional state of cardiac-circulation system.
- Basic principle of diagnosis and treatment of more often heart diseases.
- Diagnose of situation of grave and emergency heart diseases.
- First aid on the occasion of serious heart diseases.
- Basic principle of prevention of heart diseases and dentist´s role in the prevention.

8.1.1.4 The Curriculum

No information given.

8.1.1.5 Methods of Learning/Teaching

Lectures, practical training at the Department on the patients, self-dependent training

8.1.1.6 Assessment Methods

Part of the examination of internal medicine on the 6th semester

8.1.1.7 Strengths

- The teaching process takes place on the premises of special Cardiology Department at the bedside.
- The teaching of internal medicine among this cardiology takes a review of more disseminated heart diseases about emergency situations and instructions for first aid by them.
- The course attenuates the role of dentist in the treatment of heart diseases.
- The course takes a review of potential complications during the stomatological procedures in cardiac patients.
- There are available manuals:
 1. G.Harold et al. Internal Diseases 1999
 2. K.Saks. About Heart Diseases for Dentists, 1998 (in Estonian).

8.1.1.8 Weaknesses

See below.

8.1.1.9 Innovations and Best Practices

No information given.

8.1.1.10 Plans for Future Changes

No information given.

8.1.2 Gastroenterology

Course supervisor: Riina Salupere MD, PhD, Docent

Course teachers: Katrin Labotkin MD
Ingrid Kull MD

8.1.2.1 Introduction

No information given.

8.1.2.2 Primary Aims

No information given.

8.1.2.3 Main Objectives

Course objectives are to present to the student most of the common gastrointestinal and liver diseases in order that the student may identify them and understand the basic mechanisms of the

pathogenesis of these diseases. The student is presumed to have a preliminary understanding and knowledge of the indications for gastrointestinal diagnostic and therapeutic endoscopy.

8.1.2.4 Hours in the Curriculum

There are three 2 h clinics allotted.

8.1.2.5 Methods of Learning/Teaching

Lectures emphasise basic principles and leave the details for independent reading:

1. Gastro-oesophageal reflux disease
2. Peptic ulcer disease, Helicobacter pylori
3. Malabsorption, diarrhoea
4. Inflammatory bowel disease
5. Hepatitis and chirrhosis
6. Diseases of the gallbladder and biliary tree

Clinics should include review of patients with overmentioned diseases, students interact with patients.

8.1.2.6 Assessment Methods

No information given.

8.1.2.7 Strengths

See below.

8.1.2.8 Weaknesses

See below.

8.1.2.9 Innovations and Best Practices

No information given.

8.1.2.10 Plans for Future Changes

No information given.

8.1.3 Nephrology

Staff names, qualifications and email addresses

Eino Sinimäe MD

Mai Ots MD, PhD

Elviira Seppet MD

Siiri Mesikäpp MD

8.1.3.1 Introduction

Nephrology for dentists is a 6 hour course on semester 6.

8.1.3.2 Primary Aims

To give dentists survey about modern nephrology (classification of diseases, clinical features, management), especially in topics which are the most important in their work (problems of dental focal infection).

8.1.3.3 Main Objectives

To provide theoretical basis and practical training in more frequent nephrological diseases.

8.1.3.4 Hours in the Curriculum

6 h theoretical and practical training

8.1.3.5 Methods of Learning/Teaching

Lectures on main aspects of nephrological disorders.

Interactive seminars on the same topics in combination with bed-side teaching will take place.

8.1.3.6 Assessment Methods

Students will pass exam in internal diseases; nephrology is one part of it.

8.1.3.7 Strengths

See below.

8.1.3.8 Weaknesses

See below.

8.1.3.9 Innovations and Best Practices

No information given.

8.1.3.10 Plans for Future Changes

No information given.

8.1.4 Hematology**Staff names, qualifications and email addresses**

Marju Hein MD

Marju Punab MD

Ain Kaare MD

8.1.4.1 Introduction

Hematology for dentists is a 8 h course that take place on 6th semester.

8.1.4.2 Primary Aims

To give dentists survey about modern hematology (classification of diseases, clinical features, management), especially in topics which are the most important in their work (disorders with bleeding tendency).

8.1.4.3 Main Objectives

To provide theoretical basis and practical training in frequent hematological disorders.

8.1.4.4 Hours in the Curriculum

8 h of theoretical and practical training

8.1.4.5 Methods of Learning/Teaching

- Lectures on main aspects of hemopoiesis, anaemias, haemorrhagic disorders and malignant blood disorders will take place
- Interactive seminars on the same themes in combination with bed-side teaching will take place.

8.1.4.6 Assessment Methods

Students will pass exam in internal diseases, haematology is one part of it

8.1.3.7 Strengths

See below.

8.1.3.8 Weaknesses

See below.

8.1.3.9 Innovations and Best Practices

No information given.

8.1.3.10 Plans for Future Changes

No information given.

8.1.5 Rheumatology

Staff names, qualifications and email addresses

Riina Kallikorm MD, PhD, docent

Svetlana Päi MD, PhD, Dr med Sc

Mari-Ann Kalder MD

Helve Kaing MD

Mare Tender MD

8.1.5.1 Introduction

Rheumatology for dentists is a 8 h course that take place on the 6. semester.

8.1.5.2 Primary Aims

To give dentists a survey about modern rheumatology, especially in topics which are the most important in their work.

8.1.5.3 Main Objectives

To provide theoretical basic and practical training in all more frequent rheumatic disorders. We pay attention on teaching clinical features of rheumatic diseases, as they are mainly systemic and we teach these disorders complexly.

8.1.5.4 Hours in the Curriculum

8h of theoretical and practical training

8.1.5.5 Methods of Learning/Teaching

- Lectures on some aspects of rheumatic diseases including main aspects of general examination of our patients, infection - associated arthritis, connective tissue diseases and osteoarthritis.
- Interactive seminars on the same topics in combination with bed-side teaching.

8.1.5.6 Assessment Methods

Students will pass exam in internal diseases; rheumatology is one part of it.

8.1.5.7 Strengths

See below.

8.1.5.8 Weaknesses

No information given.

8.1.5.9 Innovations and Best Practices

See below.

8.1.5.10 Plans for Future Changes

No information given.

8.1.6 Pulmonary diseases**Staff names, qualifications and email addresses**

Alan Altraja MD Dr med Sc

Manfred Danilovich MD

Ülle Ani MD

8.1.6.1 Introduction

No information given.

8.1.6.2 Primary Aims

No information given.

8.1.6.3 Main Objectives

No information given.

8.1.6.4 Hours in the Curriculum

10h

8.1.6.5 Methods of Learning/Teaching

No information given.

8.1.6.6 Assessment Methods

No information given.

8.1.6.7 Strengths

See below.

8.1.6.8 Weaknesses

See below.

8.1.6.9 Innovations and Best Practices

No information given.

8.1.6.10 Plans for Future Changes

No information given.

8.1.7 Endocrinology

Staff names, qualifications and email addresses

B.Adojaan MD, Dr med Sc

T. Vinogradova MD

M. Lubi MD

T. Zaitseva MD

8.1.7.1 Introduction

No information given.

8.1.7.2 Primary Aims

No information given.

8.1.7.3 Main Objectives

No information given.

8.1.7.4 Hours in the Curriculum

5h

8.1.7.5 Methods of Learning/Teaching

No information given.

8.1.7.6 Assessment Methods

No information given.

8.1.7.7 Strengths

See below.

8.1.7.8 Weaknesses

See below.

8.1.7.9 Innovations and Best Practices

No information given.

8.1.7.10 Plans for Future Changes

No information given.

8.1.8 Infectious Diseases**Staff names, qualifications and email addresses**

Matti Maimets e-mail: Matti.Maimets@ut.ee

Matti Maimets MD, PhD

Tiina Prükk MD PhD

Aino Rõõm MD

8.1.8.1 Introduction

Infectious diseases for dentists is a 1 credit course that take place on 6. semester

8.1.8.2 Primary Aims

Supplementation of the training of dentists with contemporary knowledge in infectious diseases of relevance to their future work.

8.1.8.3 Main Objectives

To provide theoretical basis and practical training in:

- Recognising symptoms and signs of major clinical syndromes of infectious diseases relevant to the Dentistry.
- Implementation of contemporary infection control measures in their future work.

- Modern immunisation practices.
- Prudent use of anti-infective drugs.

8.1.8.4 Hours in the Curriculum

1 Credit (24h theoretical and practical training, 16h preparatory hours).

8.1.8.5 Methods of Learning/Teaching

- Lectures on different aspects of infectious diseases relevant to the Dentistry.'
- Interactive seminars on most important aspects of infectious diseases relevant to the Dentistry.
- Bed-side teaching.

8.1.8.6 Assessment Methods

Credit test.

8.1.7.7 Strengths

See below.

8.1.7.8 Weaknesses

See below.

8.1.7.9 Innovations and Best Practices

No information given.

8.1.7.10 Plans for Future Changes

No information given.

Strengths (in general)

Teaching Internal medicine specialities for the future stomatologists takes place on specialized clinics (departments) of the Tartu University Clinicum. We've put into practice all specialists of our Departments. Teaching staff is high qualified specialists on their field. They are engaged with treatment of patients every day and may transmit to the students clinical aspects and practical problems of internal diseases by the best way.

The programme of internal medicine for stomatology gives an overview of the most important internal diseases, of the possible complications and the first-aid procedures. The course underlines the role of stomatologists in the treatment of internal diseases.

Weaknesses (in general)

We are not satisfied with the fact that our technical possibilities are not good enough to push ahead an interactive training. Departments don't possess so many computers yet and computer classes are not fully completed. In connection with the reorganisation of the all clinics in one Tartu University Clinicum it is necessary to modernize the technical equipment needed for the course.

8.2 General Surgery

INFORMATION GIVEN BY THE SCHOOL

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

Toomas Väli

e-mail: Toomas.Vali@kliinikum.ee

8.2.1 Introduction

Course title: Surgical Diseases

Timing: 4th year, semester 1 and 2.

8.2.2 Primary Aims

Teaching of general surgical diseases

8.2.3 Main Objectives:

Teaching of etiology, pathogenesis, diagnostics and treatment, principles of general surgical diseases

8.2.4 Hours in the Curriculum

32 hours of lectures, i.e. 2 hours per week and 48 hours of practice.

8.2.5 Method of Learning/Teaching

Lectures and practical works (at the bed-side, in operation halls)

8.2.6 Assessment Methods

Prelim and exam

8.2.7 Strengths

Practical training are conducted by practising doctors (surgeons)

8.2.8 Weaknesses

Tutorial groups are sometimes too large; from the next academic year, the number of lectures will be reduced to 20 h and the number of practical works to 28 h.

8.2.9 Innovations and Best Practices

Implementation of the written exam.

8.2.10 Plans for Future Changes

Increasing independent work

8.3 Anaesthesiology

INFORMATION GIVEN BY THE SCHOOL

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

Aleksander Šipria MD, PhD, sen.assist. prof. e-mail: aleksander.sipria@kliinikum.ee

Staff names, qualifications and email addresses

Jüri Samarüütel, MD, PhD, docent

Aleksander Šipria, MD, PhD, Sen Assist. Professor

8.3.1. Introduction

The course is scheduled in the 3rd year of the study that gives the elementary knowledge in anaesthesiology and intensive care.

8.3.2 Primary Aims

- to become competent in basic principles of anaesthesiology and care of acutely ill and injured patients
- to give a basic theoretical knowledge of metabolism of electrolytes and infusion therapy.
- to get acquainted with the indications of methods of anaesthesia used in stomatology.

8.3.3 Main Objectives

The student should:

- understand the principles of fluids, electrolytic therapy.
- know indications and methods of regional anaesthesia.
- know indications and methods of general anaesthesia.
- know the classification of Schock and principles of treatment.
- possible complications that may occur during anaesthesia.

8.3.4 Hours in the Curriculum

Lectures 12 h, practical works 4 h. (given by the staff members of the Department of Anaesthesiology)

Lectures 4 h and practical works at the outpatient clinic (given by the Oral & Maxillofacial Surgeon).

8.3.5 Methods of Learning/Teaching

lectures, practical training, preparation of the patient to the anaesthesia, demonstration of videos and evaluation of critically ill patients in Intensive Care Unit (ICU)

8.3.6 Assessment Methods

Prelim at the end of semester

8.3.7 Strengths

- the students get very good theoretical knowledge in anaesthesiology in general,
- part of the clinical practice is performed also in the ICU

- possibility to look modern equipment and monitors in the operating room and in the ICU.

8.3.8 Weakness

Small teaching room and big groups of students

8.3.9 Innovations and Best Practices

See Strengths

- systematic evaluation of theoretical knowledge before practice

8.3.10 Plans for the Future

More practical training for the students.

8.4 ENT Diseases

INFORMATION GIVEN BY THE SCHOOL

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

Mart Kull

e-mail: Martk@cut.ee

Staff names, qualifications and email addresses

Mart Kull MD, PhD, professor

Reet Tikk MD, lecturer

Helju Mitrofanova MD, lecturer

Raivo Ani MD, lecturer

8.4.1 Introduction.

Course of lectures - 16 hours-and practical training -20 hours.

8.4.2 Primary Aims

To introduce the pathoanatomy, pathophysiology, methods of diagnostics and treatment of diseases in region of upper airways, head and neck, trachea and oesophagus and ear.

8.4.3 Main Objectives

- Explanation of pathoanatomical and pathophysiological correlations of face and paranasal sinuses as a result of lackage of nasal breathing in children.
- Explanation of pathoanatomical and pathophysiological correlations of nasopharynx and hearing and tympanal cavity as a result of lackage of nasal breathing in children.
- Explanation of pathoanatomical and pathophysiological correlations of pharynx and mouth as a result of lackage of nasal breathing in children
- Explanation of pathoanatomical and pathophysiological correlations of teeth as a result of lackage of nasal breathing in children.

- Explanation of pathoanatomical and pathophysiological correlations of pharynx and mouth as a result of lackage of nasal breathing in children.
- Explanation of the relations between upper airway diseases.
- Explanation of relations between diseases of upper and lower airways.

8.4.4 Hours in the Curriculum

The students spent 2 hours per week in ENT-clinic during 1 term (5 months).

8.4.5 Method of Learning/Teaching

Lectures and practical training.

8.4.6 Assessment Methods

Final assessment is taking place at the end of course.

8.4.7 Strengths

Special conditions for patient evaluation. Modern diagnostical equipment for ENT-diseases. Modern methods of surgical treatment in ENT. Original slide show of diseases of upper airways: Up to date fast Internet access for all the students. Interactive lecture possibilities. Minilibrary of ENT-diseases (textbooks, Journals, CD-ROM database).

8.4.8 Weaknesses

Shortness of course in ENT-diseases for dentists.

8.4.9 Innovations and Best Practices

Original methods radiodiagnostics, laser and ultrasound surgery, yet ventilation of lungs, diagnostics of soft palate etc.

8.4.10 Plans for Future Changes

More practical training for students.

8.5 Psychiatry

INFORMATION GIVEN BY THE SCHOOL

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

Liivamägi, Jüri

e-mail: Jyri.liivamagi@kliinikum.ee

Staff names, qualifications and email addresses

J.Liivamägi MD, PhD, docent

8.5.1 Introduction

The goal of the course of Psychiatry for students of stomatology is to introduce them with external and internal factors, which may cause abnormality in mental activity, with the main disorders in the field of mental health and principles of their treatment. The course begins with a review of current classification of mental and behavioural disorders, with organization of psychiatric aid and with the Estonian Psychiatric Law.

8.5.2 Primary Aims

- To introduce students with psychological problems of somatic and psychiatric patients and give them knowledge how the problems could be solved.
- To introduce students with epidemiology, symptomatology of mental and behavioural disorders, with their course and principles of their treatment and rehabilitation.

8.5.3 Main Objectives

- The relationships of patients with medical staff, within family and in the wider environment.
- Psychological, psychosocial and genetic aspects of medical disorders.
- Symptoms and syndromes of disorders of cognition and perception.
- Depression, neurotic, stress-related and somatoform disorders.
- Disorders of consciousness.
- Organic mental disorders induced by psychoactive substance abuse, somatic or brain diseases.
- Personality disorders.
- Psychotic disorders and schizophrenia.
- Principles of treatment and rehabilitation of mental disorders.

8.5.4 Hours in the Curriculum

During the course of psychiatry students actually spend 16 hours in practical training.

8.5.5 Method of Learning/Teaching

- Delivering of lectures - 36 hours
- Practical work with supervisors - 16 hours
- Individual work with literature and textbooks.

8.5.6 Assessment Methods

During the course of psychiatry 1 test about psychopathology and the course finishes with assessment.

8.5.7 Strengths

No information given.

8.5.8 Weaknesses

Few time to practical work.

8.5.9 Innovations and Best Practices

- Proposal: in the curriculum of teaching of psychiatry is necessary to increase the time for practical work of students.
- To reduce the time for lectures, to increase the extent of the individual work of students.

8.5.10 Plans for Future Changes

To increase the time for practical work and seminars.

8.6 Eye Diseases

INFORMATION GIVEN BY THE SCHOOL

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

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8.6.1 Introduction

Ophthalmology, on the 4. year of medical education

Study time is 6 hours of lectures and 18 hours of practical study, which is 24 hours auditorial study, additionally 16 hours of individual study are scheduled, resulting in 1,0 credit point of speciality (2,0 points were one year ago)

8.6.2 Primary Aims

The short course reviews basic background knowledge as well as new developments in ophthalmology and link with stomatology:

- Fundamentals and principles of ophthalmology
- Optics, refraction, and eye glasses
- External diseases of eye
- Intraocular inflammation
- Glaucoma
- Lens and cataract
- Diseases of posterior part of eye
- Eye injuries

8.6.3 Main Objectives

See 8.6.1

8.6.4 Hours in the Curriculum

See 8.6.1

8.6.5 Method of Learning/Teaching

Lectures and practical study, demonstration of different diagnostic methods and procedures.

8.6.6 Assessment method

Prelim

8.5.7 Strengths

No information given.

8.5.8. Weakness

Too short time to acquire practical skills in ophthalmology

8.5.9 Innovations and Best Practices

No information given.

8.5.10 Plans for Future Changes

No information given.

8.7 Neurology

INFORMATION GIVEN BY THE SCHOOL

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

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8.7.1 Introduction

The goal of instruction in neurology is to enable students of stomatology to become competent with the neurologic history and examination, and become familiar with the manifestations of disorders of brain, spinal cord, peripheral nerves and muscles. The students are expected to obtain the main

principles of the investigation of nervous system and also methods for basic diagnostics, medical and surgical treatment of disorders, especially facial pain, and motor disturbances in facial region.

The course is offered to the 4th year medical students. The amount of course is 48 hours - 16 lecture hs and 32 hs for practical works (2,4 credit points). The instruction ends with a prelim.

8.7.2 Primary Aims

The students have to learn the symptoms and diagnostic principles of the most common organic diseases of nervous system.

To teach to the students pathological situations and diseases of facial and cranial area (facial pain, headache, disturbances of articulation.)

8.7.3 Main Objectives

The lectures are given on the following topics:

- Cerebrovascular disease.
- Infectious diseases of the nervous system.
- Degenerative diseases of the nervous system. Multiple sclerosis.
- Epilepsy.
- Tumors.
- Head injury
- Cervical and lumbosacral radiculopathies. Neck and back pain.
- Headache, trigeminal and other cranial neuralgias, atypical facial pains, myofascial facial pain.

The topics of practical work are following:

- Meningeal syndrome. Sensory system and its disturbances.
- Motor system. Central and peripheral paralysis. Balance and coordination.
- Cranial nerves, syndromes of their impairment.

8.7.4 Hours in the Curriculum

Up to the year 1999 (incl.) the entire course consisted of two divisions - of the lectures 16 hours and practical works 32 hours, both during autumn term. The practical works were performed during 2-3 weeks, 4 hours per day. Altogether 32 hours the students actually spent treating the patients.

8.7.5 Method of Learning/Teaching

The lectures and practical instructions of neurology and neurosurgery are scheduled so that most essential chapters are either lectured or discussed by the teacher. However, the part of practical works which is aimed mostly to clinical interpretation of basic neurology is performed in the Department of Neurology and Neurosurgery of the Clinicum of the University of Tartu (bedside teaching).

8.7.6 Assessment Methods

The students must pass the internal evaluation on the basis of their performance during the courses and to pass a prelim at the end of the instruction.

8.7.7 Strengths

Teaching is performed in the department of neurology and neurosurgery (at bedside).

8.7.8 Weakness

The time schedule is not planned very well, lectures and practical works should be given in parallel. There is still some lack of contemporary high techdiagnostik equipment at the University Hospital (MRI).

8.7.9 Innovations and Best Practices - list no more than five

New information and contemporary clinical methods will be used as a basis for updating teaching material

More elements of problem based learning will be used in the teaching process

Main accent of the course will be related to bedside teaching and practical training in neurology and neurosurgery

8.7.10 Plans for Future Changes

In next year a new program for teaching of the students of stomatology will be used in the University. The amount of the course will be shorter--1,5 credit points.

8.8 Forensic Medicine**INFORMATION GIVEN BY THE SCHOOL****Person in school who will explain and show this to the visitors.**

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Staff names, qualifications and email addresses

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Daily Lepik assistant of the Chair, daily@ut.ee

Ilona Drikkit assistant of the Chair

Helena Soomere doctorant (post-graduate student) of stomatology

8.8.1 Introduction

Forensic medicine is taught to the students learning the speciality of stomatology on the 4. course of their curriculum, when they have already enough knowledge about clinical subjects. The students are introduced with the medical-biological problems, especially in the field of stomatology, that may raise up during investigating criminal cases by police or court and which solving needs special knowledge of medicine.

8.8.2 Primary Aims

To teach the fundamental ideas of forensic medicine and give the students knowledge for solving practical problems of this speciality in their future work.

8.8.3 Main Objectives

- The doctor and the law.
- Medical aspects of death and changes after death.
- Identification of unknown corpses.
- The pathology of trauma.
- Poisonings.
- Death and injury in infancy.
- Unexpected and sudden death of natural causes.
- Pregnancy and abortion, sexual offences.
- Medical malpractice.
- Examination of blood and other biological fluids.

8.8.4 Hours in the Curriculum

32 h in spring semester of the 4. course, 2 per week.

8.8.5 Method of Learning/Teaching

16 hours of lectures, 12 hours of seminars, 4 hours of practical training.

8.8.6 Assessment Methods

Preliminary examination at the end of the course.

8.8.7 Strengths

Students have a chance to take part in autopsies of the corpses by themselves and we have the very unique collection of preparations.

8.8.8 Weakness

We don't have any forensic odontologist in our country yet and up to now we have to consult the problems of stomatology with practicing dentists. But this situation will improve soon, because one specialist is being trained now.

8.8.9 Innovations and Best Practices

We hope that stomatologists will fill in the dental blankets of patients basing on their knowledge in the future. That would be of great help in identification procedures.

8.8.10 Plans for Future Changes

We plan to train one specialist – forensic odontologist – who will teach to the students of stomatology a great part of forensic medicine in the future.

8.9 Dermatology and Venerology

INFORMATION GIVEN BY THE SCHOOL

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

Silm Helgi

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Staff names, qualifications and email addresses

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docent Elle Elberg, Ph.D.

senior lecturer Sirje Kaur, MD,Ph.D.

lecturer Maire Karelson MD

lecturer Heli Rajangu MD

8.9.1 Introduction

In general part of the curriculum, we give a survey about the structure of the skin and the mucosae and about the main pathological processes in the skin (2 h). We teach the peculiarities of the exam of patients suffering from skin diseases (1 h)

We explain the main principles of the treatment of skin diseases (1 h). We pay special attention to the pathological processes on the lips and mouth (cheilitis, bullosus diseases, lichen planus, erythema exudativum multiforme, viral diseases)

In the second part of the curriculum we explain etiology, pathogenesis, clinical picture, the treatment of widely spread skin diseases and their peculiarities on the face and the mucosae of the mouth (38 h)

The third part of the curriculum we give a survey of venerological diseases especially of syphilis and Aids on the mucosae (6 h).

8.9.2 Primary Aims

To teach the mucosae peculiarities and the differential diagnoses of the skin and venerological diseases occurring on the face, lips and in the cavum oris.

8.9.3 Main Objectives

- Fungal diseases (candidoses)
- Dermatitis, eczema
- Viral diseases (Herpes infection)
- Reactive erythemas
- *Lichen ruber planus*
- Bullosus dermatosis
- Cheilitis
- Chronical connective tissue diseases
- Syphilis
- AIDS

8.9.4 Hours in the Curriculum

In our curriculum we have 18 hour of lectures and 30 hours of practical classes per group. Ordinarily a course of students is divided into 3 or 4 groups per year of training.

8.9.5 Method of Learning/Teaching

We have lectures, practical classes and individual work with patients and literature.

8.9.6 Assessment Methods

During the learning period students have to write reports on certain subjects and case histories. At the end of the course- examination.

8.9.7 Strengths

Our students have to work with patients as well as slides. Our main aim is to teach the peculiarities of skin and venerological diseases on the mucosae.

8.9.8 Weakness

Need of more special patients and more special slides

8.9.9 Innovations and Best Practices

We pay special attention to the pathology of mucosae and we teach students to use different forms of new remedies.

8.9.10 Plans for Future Changes

We plan to prepare special booklets for students of the stomatological department and we also plan to prepare more special slides.

8.10 Children Diseases

INFORMATION GIVEN BY THE SCHOOL

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

Anne Ormisson

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Staff names, qualifications and email addresses

Anne Ormisson MD, PhD, docent

8.10.1 Introduction

Paediatrics is taught on the 9th semester for the stomatology students.

8.10.2 Primary Aims

- To introduce the growth and development of the child from birth up to adolescent age,

- To teach to recognize and be aware of treatment of common diseases in infancy, childhood and adolescence,

8.10.3 Main Objectives of the Course

- To obtain clinical skills in observation of the child
- To know the developmental peculiarities of different ages
- To learn preventive measures of childhood diseases (e.g. perinatal conditions, infant nutrition, immunizations)
- To learn the possible reasons of the disturbances of childhood growth and development
- To recognize common diseases in infancy and childhood (rickets, anaemia, infectious diseases etc.)
- To know the health situation of children in the country and to compare with the other countries.

8.10.4 Hours in the Curriculum

16h of lectures and 64 h of bed-side teaching and seminars. Once per week 5 hours during 16 weeks.

8.10.5 Method of Learning/Teaching

Lectures, seminars, bed-side teaching in groups.

8.10.6 Assessment Methods

Control of clinical skills. Exam in written form.

8.10.7 Strengths

Correct planning, students are informed what they have to learn and obtain about before the course.

8.10.8 Weaknesses

Lack of individual training.

8.10.9 Innovations

Seminars on special topics, written exam.

8.10.10 Plans for Future Changes

From 2001 the children Diseases course will be shortened about 50% (48 hours) according the requirements of EU.

8.11 Clinical Pharmacology

INFORMATION GIVEN BY THE SCHOOL

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

Alexander Zharkovsky (professor of Pharmacology and Toxicology)

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8.11.1 Introduction

The course covers most drug groups, which dentist actively employs in his/her practice. The following topics are covered in the course: General principles of clinical pharmacology (pharmacokinetics, pharmacogenetics, drug therapy monitoring), pharmacokinetic and pharmacodynamic interactions, side-effects of the pharmacological agents, treatment of the inflammatory states of oral cavity mucosa and periodontal disease (antiinflammatory drugs, antibacterial and antiviral agents), Chemotherapy of bacterial infections: mono- and polytherapy-the rules of combined antibacterial therapies, the pharmacotherapy of allergic diseases, local anaesthetics-the treatment of overdose taking into account the type of anaesthesia, concentration of the anaesthetic agent and anaesthetized region, the pharmacotherapy of acute and chronic pain, unwanted effects of glucocorticoids-prevention and management, the pharmacology of bleeding disorders

The pharmacotherapy of life-threatening conditions (syncope, shock, pulmonary oedema)

Course is given during 5th year (10th semester). and consists of 20hours of seminars and practical problem-based exercises.

8.11.2 Primary Aims

- To provide knowledge, which should allow dentist to make the safest and most effective use of pharmacological agents. The emphasis is made on the groups of drugs widely used in the dental practise (local anesthetics, chemotherapeutics, analgesics, cardiovascular drugs).
- Students should be concerned to understand, to develop a rational, critical attitude to drug therapy.

8.11.3 Main Objectives

- The ultimate objective is to relate the acquired knowledge to the treatment of patients.
- An effort is made to give the students knowledge how drugs modify the patient's function and how these modifications are reflected in the proper handling of patients in a dental practice.
- Knowledge on the drug interactions with emphasis on the drugs used in dentistry.
- Principles of drug toxicology

8.11.5 Method of Learning/Teaching

Seminars (20 hours) are given by tutor and based on the problem based teaching methodology. Each student should prepare at least one essay, which is presented by him/her (20-30 min) followed by group discussions.

8.11.6 Assessment Method

Final examination (3 hours) based on the multiple choice questionnaires and essay type questions.

8.11.7 Strengths

Broad use of computer-based teaching.

8.11.8 Weaknesses

No sufficient time is given.

8.11.9 Innovations and Best Practice

Completion of Electronic text-book in Estonian (WEB address:<http://phacell.med.ut.ee>)

Implementation of computer-based teaching

8.11.10 Plans for Future Changes

Broader use of computers Lecture material will be put onto WEB-site in the Power-Point format.

Use of computer simulation of laboratory work.

Self-assessment questionnaires using computer simulation.

VISITORS COMMENTS – SUMMARISING VIEW (Section 8)

Dental students are exposed to a comprehensive course in human disease and clinical methods. The students are taught by a large team of specialists from all the major relevant disciplines. Classes are held in clinics and wards located in a number of separate buildings situated fairly closely together. It is apparent that the content of the courses has been thoughtfully tailored to the needs of practising dentist in Estonia. The amount of time and effort involved reflect the tradition of medically based teaching which is a characteristic of the school. The medical teachers we met enjoyed teaching the dental students, whom they found lively and responsive. Each teaching unit culminates in an examination, which however in most cases appeared to be a relatively informal feed-back session. Failure was a rare outcome of these examinations.

In Estonia dentists do not administer general anaesthetics but it was disappointing to learn that conscious sedation was also regarded as the exclusive province of the anaesthesiologists. This could be a deficiency if the future uptake of dental treatment by the population at large rises and the needs of anxious, phobic and handicapped patients become more prominent and are to be met by other than extraction of teeth in general anaesthesia.

In one or two disciplines (psychiatry and paediatrics) the teachers expressed that the class group size (10 students) was inconveniently large for patient interactions.

RECOMMENDATIONS

In the interest of better quality of experience in subjects like psychiatry and paediatrics it may be suggested that consideration could be given to, say having the half size group for the practical sessions and accepting a reduced exposure time, but with a higher quality.

Section 9 - Orthodontics and Child Dental Health

9.1 Orthodontics

INFORMATION GIVEN BY THE SCHOOL

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

Rita Nõmmela

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9.1.1 Introduction

The subject of orthodontics is first included in the curriculum of the 5th semester of dentistry students, which is the autumn term of the third year. The course in orthodontics consists of 7 lectures, two academic hours each. So, the duration of the whole course is 14 hours. The subjects of these 7 lectures are as follows:

- Etiology and Classification of Teeth and Jaw Anomalies
- Diagnostic Research Methods in Orthodontics
- Orthodontic appliances
- Symptomatology and Treatment of Separate Teeth and Dental Arch Anomalies
- Symptomatology and Treatment of Malocclusions of the Sagittal Plane (Angle´s class II-1,II-2)
- Symptomatology and Treatment of Malocclusions of the Vertical Plane (deep bite and open bite)
- Symptomatology and Treatment of Malocclusions of the Transverse Plane (scissors bite, lateral cross bite)

A course in methods of prevention of dental diseases also contains a few chapters on prevention of teeth and jaw anomalies (see the section 10). Lecture 1 deals with the growth and development of teeth and jaw. Lecture 2 - prophylaxis of teeth and jaw anomalies. Students have to pass a test. They are expected to have a fundamental theoretical knowledge of the normal morphology of the teeth and jaw system, its functions in different age periods (for instance the eruption time of the temporary and permanent teeth, characteristics of the orthognathic bite during different age periods). Students are expected to know the means of prevention of dental anomalies applicable for children of different age groups. They must also be familiar with general requirements and basics of muscle exercises.

As concerns textbooks and study aids, students are suggested to use the textbook by Kõdar and Labotkina "Growth and development of teeth and the jaw", Rita Nõmmela "Hamba-lõualuusüsteemi anomaaliate profülaktika"(see peaks olema inglise keeles - The profylaxis of malocclusions?). We also use videofilms and slides in our seminars.

At our department instruction is divided into periods which we call cycle. Each cycle includes 1-2 groups of students. 5-6 students each. During the 8th semester , which is autumn term of the four

years. The duration of each cycle is 4 weeks. Within a cycle, there are 3 seminars of 6 academic hours, 24 hours practical work in clinic with patients, and the last cycle day test. There are 3 theoretical seminars:

- Etiology, symptomatology of teeth and dental arch anomalies and malocclusions. The clinical diagnostic methods. The filling of the orthodontic patients case history. Plan of treatment
- Laboratory diagnostic research methods, application of biometric measurements of diagnostic patterns in practice, radiographic diagnostic research methods - orthopantomograms, cephalograms, practical measurements (Röntgenülevõtete mõõdistamine).
- Different orthodontic appliances, how to work with them.

Students also attend 4 periods of practical training in the clinic is aimed at giving skills in writing case histories of orthodontic patient, carrying out clinical observation of patients. Using diagnostic research methods, students have to put a symptomatic and differential diagnosis, make a plan of treatment which is based on the facilities available at our clinic. They also take impressions, order the orthodontic appliances, activate and correct different orthodontic appliances.

In the 8th semester the course of studies ends with a preliminary examination. The topics are as follows: normal morphology and function of the teeth and jaw system; symptomatology and etiology of dental arch anomalies and malocclusions, the ways of treatment, indication of different orthodontic appliances.

Lecture notes and "Introduction to Orthodontics" by Chilander and Rønning serve as study aids for students.

During the 9th semester, the students of dentistry have to take an examination in paediatric dentistry, which also includes the problems of orthodontics.

During the 10th semester, one day per week from the cycle of childrens dentistry, 24 hours, each student has to see and examine under doctors supervision both new and regular orthodontic patients. The students writes his patients case historis, carries out observation, makes treatment plans, takes impressions, and orders necessary orthodontic appliances.

There is one 2 -hours lecture during the 10th semester on specific features "Orthodontic treatment of patients with cleft lip and palate." One 2-hours seminar "Orthodontic treatment of adult patient". Each student draws up a clinical case history and presents it at seminar.

The final examination also contains problems of orthodontics.

Any student of Tartu University having basic knowledge of normal anatomy can take an optional 20-hours course in cephalometrics. The course is for one year and it contains lectures on cephalometrics and classes of practical training on measuring and analysis of cephalograms. The course is based on Rita Nõmmela's manual "Cephalometrics in Childrens Dentistry".

9.1.2 Primary Aims

- Students have to put a symptomatic and differential diagnosis of malocclusions.
- Students have to make a treatment plan for simple cases and be able to identify and refer more complex cases.

9.1.3 Objectives

- Good knowledge in the growth and development of teeth and jaws
- Prevention of anomalies applicable for children of different age groups
- Good knowledge in the terminology, have to write a case history of an orthodontic patient
- To put a symptomatic diagnosis
- Take impressions
- Activate and correct orthodontic appliances

9.1.4 Hours in the Curriculum

During semester 8 - 24 hours per semester

During semester 10 - 24 hours per semester

9.1.5 Method of Learning/Teaching

Lectures

Seminars

Individual work with students

Students individual work

9.1.6 Assessment Methods

Test on the 5th semester

Preliminary examination on the 8th semester

Examination on the 9th and 10th semester

9.1.7 Strengths

A lot of patients with different anomalies

9.1.8 Weaknesses

Lack of textbooks in the University Library.

There is no possibility yet to make cephalograms and also no special computer programme for these purposes.

Lack of special classroom to teach orthodontics

9.1.9 Innovation and Best Practices

- There is enough patients with different anomalies for practical works
- By staff members are published manuals in Orthodontics (in Estonian)
- There are available videos in Orthodontics
- Teaching of Orthodontics is moved to the 10th semester.

9.1.10 Plans for Future Changes

- Problem based teaching
- To include practice in Orthodontics during the practice in Paediatric Dentistry on the 10th semester.

9.2 Paediatric Dentistry

INFORMATION GIVEN BY THE SCHOOL

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

Silvia Russak

Staff names, qualifications and email addresses

Silvia Russak, M.D.; Ph.D;

Jana Olak, M.D; PhD student

Ruth Vasar, M.D

9.2.1 Introduction

Semester 8th - 72h.

Themes:

- Anomalies of dental development
- Child patient. Behaviour management.
- Caries of deciduous teeth and its treatment
- Pulpitis and apical periodontitis. Peculiarities of deciduous teeth treatment.
- Parodontic diseases in children, differential diagnostics and treatment
- Diseases of oral mucous membrane in children, diagnostics and classification
- Acute stomatitis in childhood

Semester 9th - 8h seminars, 40h practical work, examination at the end of semester 9.

Themes of seminars in childrens stomatology:

- Teaching oral hygiene to children and ways of its check-up
- Anaesthesia in childrens stomatology

Practical work is carried out in cycles during 4 weeks (8 hours per week). Periods of practical work at dental clinic, where students are expected to diagnose diseases of the hard tissue and the parodont in children and to write a case history. During the cycle each student treats caries and pulpitis of deciduous teeth and extracts deciduous teeth. To diagnose parodontic diseases students have to know the criteria for the estimation of the state of the parodont, the additional methods of investigation, and to draw up a plan for treatment; they have to remove scale and coating and be able to use methods of local treatment; they must be able to diagnose and differentiate inflammations of the oral mucose membrane, and draw up the corresponding plans of treatment.

Each student draws up a clinical case history and presents it at seminar.

Semester 10 - 96 hours. 4 2-hours lectures, 4 2-hours seminars, 80 hours practical work.

Practical work in cycles during 4 weeks (4 hours per day). The whole program of children dentistry the students treats caries, pulpitis and gingivitis of deciduous and permanent teeth.

Lectures:

- Pediatric dentistry and organization of early prophylaxis. Medical documentation.
- Fluorides and teeth.

- Traumatic dental injuries of child patient.
- Microflora of the oral cavity and dental diseases.

The final examination contains problems of paediatric dentistry.

9.2.2 Primary Aim

At the end of the course the students have knowledge about: oral diagnosis, prevention and treatment of dental caries, periodontal disease, developmental anomalies, pediatric radiography, sedation, pathology of oral manifestations of diseases of children and adolescent, restorative procedures, pulpal therapy, and traumatic dental injuries of child patient.

9.2.3 Objectives

- Good knowledge in the growth and development of teeth and jaw
- Diagnosis and treatment of localised disturbances in mineralisation in the primary and permanent dentition
- Diagnose, assess, predict and treat dental caries in the primary, mixed and permanent dentition
- Diagnose clinically periodontal condition in children and adolescents
- Diagnose, assess and treat gingivitis in children and adolescents
- Clinical manifestation and treatment of oral manifestations of childhood diseases
- diagnosis and treatment of primary herpetic gingivostomatitis, recurrent aphthous ulcers and oral candidosis
- Diagnose, treat and perform long-term follow-up of teeth with exposed healthy pulp, inflamed and necrotic pulp in primary teeth diagnose and treat complications in connection with endodontic therapy
- State indications for and perform extractions of primary and permanent teeth
- Diagnosis, acute therapy, short- and long-term prognosis and follow-up of traumatic injuries in the primary and in the young permanent dentition

9.2.4 Hours in the Curriculum

80 hours at the 10th semester, 40 hours at the 9th semester

9.2.5 Method of Learning/Teaching

Lectures

Seminars

Students individual work

9.2.6 Assessment Methods

Examination

9.2.7 Strengths

A lot of patients with different age periods and problems.

9.2.8 Weaknesses

- Lack of textbooks at our University Library

- We have not special seminar room for paediatric dentistry

9.2.9 Innovation and Best Practices

- Manuals in Paediatric Dentistry
- Enough patients with different pathologies in clinical practice.

9.2.10 Plans for Future Changes

Problem based teaching

VISITORS COMMENTS – SUMMARISING VIEW (Section 9)

❖ Orthodontics

Orthodontics and Child Dental Health are taught by two small teams of dedicated and enthusiastic staff, led by a single head for both disciplines. Orthodontic theory is first taught in the 5th semester, with interceptive orthodontics taught under the umbrella of Dental Public Health and Prevention. Practical work starts in the 8th semester, together with 3 2-hour seminars. Practical work includes examination, diagnosis and treatment planning of a large number of patients, but with only a few selected patients accepted for treatment by the undergraduate using removable, functional or simple fixed appliances. This practical experience continues until the end of the 10th semester, and included in the last semester is a seminar on cleft lip and palate. Examinations in orthodontics occur at the end of the 5th semester, a “preliminary” exam in the 8th semester, and examinations in the 9th semester (together with Paediatric Dentistry) and in the 10th semester. There is limited instruction in removable appliance construction, and this is given as part of the prosthetics phantom head course. There is some integration between orthodontics and paediatric dentistry, where the situation allows.

This approach to undergraduate orthodontic education is commonplace in countries that have a postgraduate orthodontic training programme, fits in well with the published EU guidelines, and is ideal for the situation in Estonia.

The strengths of the teaching in orthodontics are the committed staff, the wide range of orthodontic problems to which the students are exposed, and the opportunity for students to have experience of the full range of orthodontic appliances.

The problems associated with the delivery of orthodontic education are the limited number of chairs available for treatment, the cyclical nature of the clinical timetable that restricts the students' opportunity to experience longitudinal care for a patient, and the lack of cephalometric radiography facilities (which hampers both undergraduate and postgraduate instruction and education).

Recommendations

The visitors would endorse the Plans for Future Changes changes (the introduction of problem based learning [PBL], and greater integration with Paediatric Dentistry), but would caution that PBL will require greater written and electronic resource than is presently available.

❖ Paediatric Dentistry

Instruction in Paediatric Dentistry starts in the 8th semester and continues through to the end of the 10th semester. This consists of lectures, seminars and practical work. This is complemented by instruction in Paediatrics by teachers from the Medical Faculty during the 9th semester, and by Dental Public Health & Prevention during the 3rd year of the course. During this latter time the students go out to Community (school) Clinics and take part in Dental Health Promotion and Preventive Dentistry exercises. There is no preliminary phantom head course in Paediatric Dentistry, and students start their practical work on children during the 9th semester. There is no shortage of children with suitable problems for students to work with. In common with all other disciplines, the practical work is undertaken on a cyclical basis. The full range of paediatric dentistry procedures are taught. Assessment takes place in the 9th and 10th semester.

The strengths of the course are the committed staff, the easy availability of suitable child patients, the outreach experience in Community Clinics and the integration with Orthodontics and Dental Public Health.

The problems with the course are the small number of chairs available for children, the lack of a structured and integrated behaviour management programme for children and the cyclical nature of the clinical course that precludes the longitudinal care of child patients.

It would seem that there is no requirement for students to undertake a prescribed range of procedures prior to graduation, and no mechanism for easily logging treatment provided and experience gained by individual students in this speciality.

Recommendations

The visitors would support the change to problem based learning, but would caution that there is insufficient resource currently available for this to be effective. We would recommend that consideration be given to the introduction of a log book in which the student may record the type, quantity and quality of work undertaken to ease the administrative burden on staff, and provide the student with a portfolio of work that they may use to plan their continuing education.

Section 10.-

Public Dental Health and Prevention

INFORMATION GIVEN BY THE SCHOOL

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10.1 Introduction

We have not separated public dental health as an independent discipline. These problems are handled in the frames of biostatistics with epidemiology, public, environmental, occupational health, health promotion, medical sociology, history of medicine, health care management and health economics courses held by the Institute of Public Health (all-together 11 credits). Epidemiology of dental diseases is lectured within special courses. Prevention of dental diseases, periodontal diseases and orthodontic anomalies is handled on the 5th term (1 credit) with special lectures, seminars and practical works in schools and kindergartens.

10.2 Primary Aims

The aim of these courses is to make students understand the variety of public health problems and the ways of prevention of diseases, both general and dental diseases

10.3 Main Objectives

- Health promotion
- Environmental health hazards
- Psychosocial risk factors
- Dental office and hygiene
- Requirements of defence of dental personnel and patients
- Ergonomics
- Biostatistics and epidemiology
- Nutrition
- The law of health
- Health statistics and epidemiology
- Evaluation of quality in medicine

10.4 Hours in the Curriculum

- **Preventive dentistry:** 2 credits on 3rd course. 14.hours of lectures, 12 hours of seminars, 24 hours of group practical work (in cycles)
- **Water and health:** 0,5 credits : 8 hours of lectures, 8 hours of seminars
- **Environmental and occupational health:** 2,5 credits:24 hours of lectures, 32 hours of seminars,8 hours of practical works, prelim and exam

10.5 Method of Learning/Teaching

Lectures , seminars, practical works

10.6 Assessment Methods

Prelim and exam in environmental and occupational health, a prelim in the prevention of dental diseases

10.7 Strengths

At the Public dental health department the staff is well qualified with scientific degrees on the subjects of Public health. The teaching is modified for the dental students following the need s of dental practitioners.

To teach the basic rules of prevention of dental caries to explain public dental health problems to people two books have been published by the teachers of our department.

State dental health projects are designed and instructed by the teachers of our department.

10.8 Weaknesses

No information given.

10.9 Innovations and Best Practices

A set of transparencies to teach prevention of dental diseases in schools and kindergartens has been designed, also a series of stickers for children.

Our students and teachers participate annually in organising of the “Health Day” in April in Tartu teaching citizens ways of prevention of dental diseases.

Students are practising in schools and kindergartens lecturing and giving instructions about the technique and means of individual oral hygiene

10.10 Plans for Future Changes

Better integration of the topics

VISITORS COMMENTS – SUMMARISING VIEW (Section 10)

Public Dental Health is taught by a mixture of individuals with separate but linked skills. The majority of the teaching is undertaken by staff from the Institute of Public Health, and coordinated by a professor from the Institute who has made a special effort to ensure that the teaching provided is relevant to dental students. Within the Institute there are chairs in Biostatistics and Epidmiology, Health Promotion, Environmental and Occupational Health, Health Care Management, and Health

Economics, and teaching in all these subjects. There is no chair in Dental Public Health, and no plans for the investment of such a post. This course provides 11 credits, and there are a further 2 credits in Preventive Dentistry, 0.5 credits in Water and Health, and 2.5 credits in Environmental and Occupational Health. There is clearly close collaboration between the Public Health teachers and the dental teachers.

In Estonia there are also trained Health Educators whose task is to assist in the delivery of the Public Health messages to the general public. The students have no contact with such individuals.

The strengths of this course are the high quality of non-dental input, and the thoughtful selection of appropriate teaching material. The movement of students out of the dental school and into Community Clinics (see Section 9) for first-hand experience of Prevention and Dental Health Promotion is worthy of particular praise.

Recommendations

Whilst accepting that Public Health has an important role in the planning and implementation of dental health delivery, the problems with the course are the relative imbalance of Public Health and Dental Public Health, and between the whole of this section and other areas of the course. For example, Clinical Practice has 19 credits, a total of only 3 credits more than this section.

The visitors would endorse the planned integration of Public Dental Health with other areas of the course, they suggest that the Faculty might consider addressing the imbalance within this area (see Section 16), and, if possible, give the students access to the Health Educators to promote the team approach to Dental Public Health.

Section 11 - Restorative Dentistry

11.1 Conservative Dentistry

INFORMATION GIVEN BY THE SCHOOL

Person who will show and explain this to the visitors:

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Ruth Vasar, MD, lecturer

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Ene-Renate Pähkla, DMD, lecturer

Lauri Vahtra, MD, MSc, lecturer

11.1.1 Introduction

The course of conservative dentistry consists of pre-clinical and clinical course. The training of students in this subject is performed on 4th to 10th terms of five courses at the medical faculty of Tartu University. During the pre-clinical course students obtain knowledge about dental morphology, instruments and apparatuses used in dental practice, the physical and handling properties of dental materials, practice restorative dentistry (preparation of cavities of various location and degree of destruction. They have a preliminary instruction on cross-infection control, sterilisation and X-Ray diagnostics in a dental clinic. On the 5th term students learn ergonomics, communication with patients, diet analyses, examination, diagnosis, documentation and treatment planning of dental diseases parallel to the practical treatment on patients. Our students go on with the conservative dentistry on all terms parallel to the new topics. For two more years 4th year students have outside-university summer-practice which means working in bigger dental clinics treating dental carious and noncarious lesions, complications of caries and also periodontal diseases.

11.1.2 Primary Aims

To teach diagnosis and treatment of dental caries and noncarious diseases

11.1.3 Main Objectives

To teach students:

- The physical, clinical and handling properties of dental materials, indications for use and the art of cavity preparation
- Ethical principles in dentistry
- Hygiene in dentistry
- Ergonomics in the dental setting

- Examination of a patient with dental caries incl. x-ray
- Treatment planning
- Restorative treatment
- Prophylactic and conservative treatment of dental caries
- Differential diagnosis of dental caries
- Pain problems in dental treatment
- Noncarious lesions of teeth

11.1.4 Hours in the Curriculum

155 in total:

Pre-clinical course:	lectures	36 hours
	seminars	4 hours
	practical works	91 hours
Clinical course:	lectures	16 hours
	practical works	38 hours (in cycles)

11.1.5 Method of Learning/Teaching

Basic materials will be given to students on the lectures which they have to study parallel to the pointed out printed matters individually. Students refer dental service under permanent supervising of a teacher. They diagnose pathology and treat the patients. Teacher and the student analyse the cases and recording of the treatment, also estimate the treatment quality.

11.1.6 Assessment Methods

Tests, personal check-ups, preliminary examination after preclinical course to prove their theoretical knowledge and practical skills before treatment of patients. The course of restorative dentistry is completed with an exam (in written form).

11.1.7 Strengths

- Practical training in clinic with lots of patients
- All the teachers are acknowledged dental practitioners
- Very good level of teaching basic sciences

11.1.8 Weaknesses

- We lack diagnostic aids and case demonstration appliances
- Number of dental units is not sufficient.
- Our library is poor in dental literature.
- Shortage of teachers

11.1.9 Innovations and Best Practices

To get a library which is up to the demands of teaching dentistry. To provide students on university side with necessary printed manuals in Estonian language.

11.1.10 Plans for Future Changes

To introduce comprehensive dentistry and problem-based teaching into the dental curriculum.

11.2 Endodontics**INFORMATION GIVEN BY THE SCHOOL****Person in School who will explain and show this to the visitors:**

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Staff names, qualifications and email addresses

Taavo Seedre MD, PhD, docent

Mare Saag MD, PhD, docent

Ene-Renate Pähkla DMD, lecturer

11.2.1 Introduction

Preclinical course in endodontics starts in fourth semester.

Lectures and practical works are covering tooth morphology, preparation of access cavities, instrumentarium, techniques of root filling. Clinical course starts in the third year where student is listening lectures in clinical endodontics and treating practically pathological states of pulp and periapical regions.

11.2.2 Primary Aims

To make student understand in principles in practical endodontics.

11.2.3 Main Objectives

- Diagnose conditions of the pulp and periradicular tissues.
- Identify and determine etiologic factors responsible for pulpal and periradicular diseases.
- Identify and use, appropriate measures to prevent diseases of the pulp and periradicular tissues.
- Identify factors which may affect the proposed treatment.
- Provide a standard of care in endodontic treatment.
- Evaluate completed endodontic procedures.
- Identify special requirements in the restoration of endodontically treated teeth.
- Evaluate new technology in endodontics.

11.2.4 Hours in the Curriculum

3 preclinical lectures in fourth semester.

32 hours of practical work in preclinical course.

6 clinical lectures in sixth semester.

36 hours of clinical work in sixth semester.

Last year student is treating all clinical cases.

11.2.5 Method of Learning/Teaching

Lectures, practical works, seminars.

11.2.6 Assessment Methods

2 control tests in preclinical course.

Examination after third year course.

11.2.7 Strengths

The need of endodontic treatment among the population is high and that means our students can treat a lot of cases.

11.2.8 Weaknesses

Lack of instruments and special equipment. Dividing the teaching process into cycles does not sometimes allow students to treat cases completely

11.2.9 Innovations and Best Practices

See strengths

11.2.10 Plans for Future Changes

To complete teaching process with new technology instruments.

11.3 Prosthodontics

(Fixed and Removable Prosthodontics; Edentulous State)

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Andres Korrovits, assistant

Eve-Maaja Metsa, assistant

Arne Viirsalu assistant 0.5

live Koll, Head of Department, assistant 0.5

11.3.1 Introduction

The curriculum of clinical course in prosthodontics:

Amount: 14 CP incl. (hours): 68 L + 204P + 96S + 192i

Duration: 3-5 acad.year:

- 5. sem. 10L + 22P + 16S inlays/onlays Assessment: => T + PE
- 6. sem. 10L + 22P + 16S dowel crowns, crowns and bridges => T

- 7. sem. 14L + 18P + 16S partial dentures => T + E
- 8. sem. 14L + 18P + 16S full dentures => T
- 9. sem. 12L + 52P + 16S period. involved teeth, TMD, patol. attrition => T
- 10. sem. 8L + 72P + 16S max-facial prosth., implants, geriatric prosth. => T + PE, E

11.3.2 Primary Aims

- On 3 and 4 year to give basic knowledge and primary skill making different kind prostheses
- On 5. year systemic approach to oral rehabilitation for complicated patient

11.3.3 Objectives

- inlays/onlays
- dowel crowns, crowns and bridges
- partial dentures
- full dentures
- period. involved teeth, TMD, pathological attrition
- max-facial prosthodontics, dental implants, geriatric prosthodontics

11.3.4 Hours in Curriculum

Total amount: 68 L + 204P + 96S + 192i

- 5. sem. 0.63L + 1.38P + 1S
- 6. sem. 0.63L + 1.38P + 1S
- 7. sem. 0.88L + 1.12P + 1S
- 8. sem. 0.88L + 1.12P + 1S
- 9. sem. 0.75L + 3.25P + 1S
- 10. sem. 0.50L + 4.50P + 1S

11.3.5 Method of learning

L - lectures

P - practical exercises

S - seminars

I- individual learning

11.3.6 Assessment Methods

- 5. sem. => T + PE
- 6. sem. => T
- 7. sem. => T + E
- 8. sem. => T
- 9. sem => T
- 10. sem. => T + PE + E

(T = Test, PE = Preliminary Exam, E = Exam)

11.3.7 Strengths

Practical rooms nearby to dental labour and prosthodontic department of dental clinic.

11.3.8 Weaknesses

- Separation of prosthodontic department from main dental clinic
- Lack of qualified staff (incl. prosthodontic department and dental labour)
- Insufficient practical rooms and units
- Insufficient supply of materials

11.3.9 Innovations and Best Practices

None to report

11.3.10 Plans for Future Changes

- Reforming the residence teaching - forming residency to restorative dentistry incl. in addition to prosthodontics also conservative dentistry, endodontics and periodontics
- Integration of practical training of 5.th year students

11.4 Occlusion and Function of the Masticatory System (elective subject)

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Dr.Piret Kõll-Klais DMD, lecturer

Dr.Taive Koppel DMD, lecturer

11.4.1 Introduction

Course is part of integrated subject of preclinical course (propedeutics) and take place at 4. semester. Students study of stomatognathic and masticatory system physiology, occlusal morphology and general clinical aspects of occlusion. In practical training teaching of modellation of occlusion and using of articulators.

Amount: 2CP = 10L + 22P + 16 S (+32 i) => PE

11.4.2 Primary Aims

- Systemize students knowledge obtained from general course of anatomy and physiology
- Open clinical basic aspects of occlusion

11.4.3 Main Objectives

- physiology of mandibular movement and mastication
- occlusion and articulation: terms and concepts

- developmental changes in occlusion
- detailed occlusal morphology
- clinical aspects of occlusion

11.4.4 Hours in curriculum

10L + 22P + 16 S +32 i

11.4.5 Method of Learning/Teaching

Subject learning follow tradition: 10 hours for lectures (see main objectives), in practical training (22 hours) students learns to use articulators and wax up occlusion. In seminars (16 hours) students perform and discuss about individually prepared reviews.

11.4.6 Assessment Methods

Assessment consider obtained practical skills to use articulators and wax up occlusion, the review and finally was concluded by test.

11.4.7 Strengths

Access to well equipped dental laboratory

11.4.8 Weaknesses

- Too big practical training group (10 persons)(tutorial group in preclinical subjects is 10 students)
- Shortage of qualified staff (incl. laboratory technicians)
- Lack of textbooks and audio-visual aid

11.4.9 Innovations and Best Practices

- Students study and checking occlusion themselves
- Students making occlusal equilibration and reparation on models using articulators

11.4.10 Plans for Future Changes

- Change the subject status to obligatory
- Develop functional wax up technique teaching
- Improve instrument set for waxing

VISITORS COMMENTS – SUMMARISING VIEW (Section 11)

❖ Conservative Dentistry

Hours in the Curriculum of conservative dentistry amounts 155. The logical progression and the integrated approach in the teaching are appreciated. However, students are allowed to progress into the clinical course with treatment of patients before their manual dexterity is evaluated. Some earlier training and evaluation of manual skills should be considered.

The clinical course in conservative dentistry is dispersed in cycles - one cycle per year. Weakness of this dividing the teaching and training in cycles is that students can make a treatment plan for a

patient, but cannot give this treatment themselves. Also they do not have the possibilities for completing complex treatment, to observe and appreciate results of their own treatment.

Students treat 2 - 3 patients per day, but the possibility to treat different dental lesions or diseases depends entirely on the needs of the patients.

❖ **Endodontics**

Students are introduced to endodontics in the 4 semester. The course comprises 77 hours. A pre-clinical course of 35 hours and a clinical course in 6 semester of 42 hours. Lectures and practical works are in tooth morphology, preparation of endodontic cavities, instrumentarium, techniques of root filling. The clinical course starts in the 3 year where students receive lectures on endodontics and are treating practically pathological states of the pulp and the periapical region. Fifth year students treat all clinical cases.

Dividing the teaching process into cycles do not permit the students to complete the treatment of the individual patient and to evaluate outcome of the treatment.

❖ **Prosthodontics**

Students are introduced to prosthodontics in a pre-clinical part in the 4 semester (dental technology and materials). During the 3 and 4 year students study restorations with inlays and make various dental prostheses - fixed and removable. During the 5 year the students study prosthodontic aspects originating from periodontal disease, TM disorders, attrition, acquired and congenital defects, implantology and gerodontics.

Dispersion of the teaching process into cycles does not permit students to complete treatments and to provide patients complete treatment. It is important the students get opportunity to follow and evaluate their treatment.

❖ **Occlusion and Function of the Masticatory System**

It is part of the integrated subjects of pre-clinical course taking place in the 4 semester. Students study of the stomatognathic and masticatory system encompass physiological, occlusal, morphological and general clinical aspects of occlusion. In practical training - teaching of modelation of occlusion and using of articulators. An understanding of dental occlusion and function of the masticatory system is very important in dentistry and especially in prosthodontics. This is pity that this course is elective.

Section 12 - Periodontology

INFORMATION GIVEN BY THE SCHOOL

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Edvitar Leibur MD, PhD, Dmed Sc, (Surgical therapy)

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Taive Koppel MD, lecturer

Ene-Renate Pähkla MD; lecturer

12.1 Introduction

The course of periodontology is planned for the 8th term with practical works in cycles.

12.2 Primary Aims

To explain the students the etiology, pathogenesis and treatment of periodontal diseases.

12.3 Main Objectives

- Epidemiology of periodontal diseases
- Etiology and pathogenesis of periodontal diseases
- Diagnosis, treatment planning and prognosis of periodontal diseases
- Causative treatment
- Manifestations of general diseases in the periodontium
- Surgical methods of treatment of periodontal diseases
- Maintenance
- Prosthetic treatment of periodontally involved dentition inc. occlusal therapy

12.4 Hours in the Curriculum

Lectures 24 hours

Practical works 96 hours

10 hours of prevention of periodontal diseases

+ all the clinical periodontal cases during the complex treatment of patients on the 9th and 10th term

12.5 Method of Learning/Teaching

Lectures, practical works (surgical treatment of advanced periodontal disease is performed in the Department of Oral Surgery), individual work with the literature

12.6 Assessment Methods

Tests and a prelim at the end of the cycle

12.7 Strengths

- There are scientific publications about pathogenesis and surgical treatment of periodontal disease in refereed Journals published by our staff members.
- Textbook of Clinical Periodontology (1992) by J.Lindhe (5 copies) is available for the students.
- Students can perform some stages of treatment of periodontal disease under supervision.

12.8 Weaknesses

No phantoms in periodontology

12.9 Innovations and Best Practices

In periodontal surgery several new methods have been introduced in practical works with students e.g.

- bone grafting with demineralised bone matrix or with autobone- resorbable membranes, bioactive glass etc.
- for stimulation of reparative regeneration of alveolar bone Calcitrin, Clotam etc are introduced in the treatment of patients with periodontal disease.

12.10 Plans for the Future

Need for phantoms for preliminary practical training in periodontology. Introduction of problem based teaching for better integration of all studied disciplines.

VISITORS COMMENTS – SUMMARISING VIEW (Section 12)

The theoretical teaching in periodontal surgery is delivered by the oral surgical department, whereas teachers from the Department of Restorative Dentistry are responsible for conservative and preventive periodontics. The teaching is given by a motivated and dedicated staff. The periodontal curriculum appears to be based on modern concepts and on a modern textbook. The clinical facilities are excellent but the number of clinical units does not provide all the students of a teaching group a dental unit for all the time scheduled for clinical training and for patient treatment. Moreover, the general clinical schedule prohibits the student from giving the individual patient the complete periodontal treatment and to follow to over time the outcome of the treatment. Consequently, the student cannot observe and appreciate the effect of his/her treatment, whether it is conservative and/or surgical. Thus, the schedule for clinical training makes periodontal teaching difficult. The implications of theoretical concepts and the effect of treatment and preventive measures cannot be experienced by the students in the clinic. Learning in clinical periodontics would benefit tremendously if the clinical schedule was changed in a way which would allow the student to provide complete periodontal care to the individual patients and to experience long term effect of the treatment.

The periodontal surgical experience appears to be limited.

The clinical competency is evaluated at the end of each course on the basis of a detailed recording of observations, diagnosis and treatment provided by the student.

Section 13 - Oral & Maxillofacial Surgery and Dental Radiography and Radiology

13.1 Oral and Maxillofacial Surgery

INFORMATION GIVEN BY THE SCHOOL

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Jüri Savissaar - MD, oral surgeon

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13.1.1 Introduction.

The course covers all the surgical diseases in Oral and Maxillofacial area. Course is given during 3rd, 4th and 5th year and consists of 64 h lectures and 368 h practical works. The course is in the form of discussions, seminars and practical works at the Oral Surgery Department at the Dental Clinic and at the Department of Maxillofacial Surgery.

The students are expected to obtain the main principles of investigation of oral and maxillofacial region and also methods of basic diagnostics, medical and surgical treatment of the disorders in these areas.

13.1.2 Primary Aims

- To introduce students the updated methodology used in research and clinical practice.
- To help understand the students the etiology and pathogenesis of surgical diseases odontogenic and nonodontogenic origin.

- To teach fundamental ideas of Oral and Maxillofacial Surgery and give the students knowledge for solving practical problems of this speciality in the future work.

13.1.3 Main Objectives

The Basic Programme accepted by the Council of International Association of Oral and Maxillofacial Surgeons (ICOMS) at the XIVth Meeting in Washington, April, 1999 is taken into account and is as follows:

- Pre- and postsurgical patient management
 - preoperative medical assessment
 - postoperative assessment and management
- Dento-alveolar surgery
- Trauma of the face and facial skeleton
- Inflammatory diseases (odontogenic and nonodontogenic origin)
- Temporomandibular joint diseases
- Tumor and tumor-like lesions in oral and maxillofacial area (Oral Pathology)
 - including malignancy)
- Congenital deformities
- Basic reconstructive surgery

11.1.4 Hours in the Curriculum

Lectures - 64 h

Practical works - 304 h

11.1.5 Method of Learning/Teaching

- Practical works
- Seminars
- Lectures

Lectures (64 h) are given once a week (2 h) each student should prepare 2 essays - one academic case history and one essay will be presented by the student followed by group discussion. The part of practical works which are aimed mostly to clinical interpretation are performed in outpatient clinic and in the Department of Maxillofacial surgery.

11.1.6 Assessment Methods

- Checking the theoretical knowledge before the beginning of practical works
- Written test and discussion at the end of the every topic
- Prelim on the VI term
- Exam on the VII term
- Final exam on the Xth term

11.1.7 Strengths

- Practical approach - students have a possibility to see all the pathology in the maxillofacial area during their all study period. Every student have to present and defense an academic case history in Oral and Maxillofacial Surgery.

- Teaching is performed in the modern Dental Clinic and in the Department of MFS and in the Operation Hall of the Maarjamõisa Hospital, Tartu University Clinicum.
- Curriculum is based on continuously updated lecture and seminar materials using new textbooks and scientific journals (International Journal of Oral&Maxillofacial Surgery, Journal of European Association for Cranio-Maxillofacial Surgery, European Journal of Oral Sciences)
- The following manuals have been published (in Estonian):
 - E.Leibur, M.Kalnin. Anaesthesia and tooth extraction.
 - M.Kalnin. Odontogenic Inflammations.
 - E.Leibur, M. Kalnin. Injuries of Maxillofacial area.
- Tutorial groups are small- 5 students in a group practising under supervision.

11.1.8 Weaknesses

For the students knowing not enough about the fundamental medicine can be difficult to understand all mechanisms, especially histology and the mechanisms of pathogenesis.

There is some lack of contemporary equipment i. e. MRI

11.1.9 Innovations and Best Practices

Computer classes for the dental students at the Computer center of the Faculty of Medicine

Students have to choose elective courses every year. In OMFS there are the following new elective courses:

- Local anaesthetics in stomatology (mainly for the IIIrd year students)
- Implants in stomatology (for IVth and Vth year students)
- Diseases of Temporomandibular Joint

11.1.10 Plans for the future

- Broader use of computers
- Lecture material will be put into WEB-site in the Poweer-Point format.
- To write a textbook about tumor and tumor-like lesions in maxillofacial area in Estonian.
- A new Curricula according to the requirements of European Union Directives is introduced.
- To follow the Basic programme of training in OMFS, accepted by the Council of IAOMS in Washington, April, 1999.

13.2 Radiography and Radiology

INFORMATION GIVEN BY THE SCHOOL

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

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Staff names, qualifications and email addresses

Genadi Gorelashvili, candidate of medical sciences, practising radiologist

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13.2.1 Introduction

The course of radiology is thought during 5. semester with other preclinical disciplines

13.2.2 Primary Aims

Introducing different available radiological modalities and methods, teaching normal radio-anatomy and radiological symptoms of diseases

13.2.3 Main Objectives

- To obtain knowledge about physical principles and clinical applications of different radiological methods taking account their diagnostic value and limitations.
- Indications, contraindications, biological effects, safety and rational clinical usage of radiological examinations.
- Peroral and intravenous contrast agents in radiology.
- Thorough studying of the normal radioanatomy
- Radiological symptoms of the common diseases, diagnosing of different pathological conditions by the means of radiological examinations in combination with clinical and laboratory findings etc.
- Examination of the trauma patient

13.2.4 Hours in the Curriculum

Course consists of 10 hours of lectures and 14 hours of seminars.

13.2.5 Method of Learning/Teaching

Lectures are meant to receive the main information. Practical individual work in seminars with teaching files in different fields of diseases and different groups of organs will help to reach the deeper understanding and personal knowledge in image interpretation.

13.2.6 Assessment Methods

Certain themes are to be prepared for seminars and in every seminar evaluation is done.

13.2.7 Strengths

The opportunity to learn diagnostic methods before beginning the clinical work and in the possibility to have access to all the diagnostic equipment located in the Tartu University Clinics.

13.2.8 Weaknesses

There should be also an additional short course of clinical radiology somewhere before graduating.

13.2.9 Innovations and Best Practices

No information given.

13.2.10 Plans for Future Changes

Plans are improving of teaching by establishing the separate radiology clinic with own staff and better teaching facilities. Teaching could be improved also with purchasing new equipment, esp. MRI unit.

13.3 Dental and Facial Skeleton Radiography

INFORMATION GIVEN BY THE SCHOOL

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S.Russak MD, PhD, docent

J.Olak, M.D., lecturer

O.Salum, MD, PhD, docent

L.Vahtra, MD, MSc, lecturer

M.Soots, M.D., lecturer

S. Võlli, M.D.,

13.3.1 Introduction

A special course in radiology (by the department of radiology at the medical faculty) is on the 3rd course – 1 credit point. Additional to that students have a possibility to select a course of cephalometry – 1 CP . Dental radiography is a subtopic in most of the dental courses: preclinical course, cariology, endodontics, periodontal diseases, oral- and maxillo-facial surgery, orthodontics, prosthetics and pediatric dentistry.

13.3.2. Primary Aims

- To study roentgenanatomy.
- To diagnose pathology with the help of radiography.
- To evaluate long term results of treatment.

13.3.3 Main Objectives

- To know the processing of the roentgenograms
- To know correct projections of x-ray beam
- To know the biologic effects of x-rays and x-ray protection
- to know normal anatomy
- to know the structure of tissues on the x-ray
- to find the evidence of various forms of pathology on the roentgenograms
- interpretation of dental roentgenograms

13.3.4 Hours in the Curriculum

72 hours of studies

- lectures - 4 hours

- practical works – 12 hours

13.3.5 Method of Learning/Teaching

Lectures, seminars and practical works

Lectures: 2 hours - The basics in dental radiography. 5th
1 hour during the course of endodontics

Seminars: 6 hours - Orthopantomography and cephalometry, 7th term
2 hours - during the course of periodontology on 8th term
6 hours during the course of oral surgery
6 hours - Dental radiography, 10th term

A selective course of 20 hours/0,5 CP: Cephalometry

Practical works in the department of dental radiography, 12 hours on 10th term

13.3.6 Assessment Methods

The obtained knowledge of roentgenology is examined during the exams of all dental courses together with the clinical diagnosis and treatment of various dental diseases

13.3.7 Strengths

- Good integration into studies
- Students do most of the dental x-rays themselves under supervisor
- Roentgenological findings are always handled parallel to the clinical situation
- The students interpret the roentgenograms with the help of teachers

13.3.8 Weaknesses

- Number of seminars could be larger.
- No phantom class for special training.
- No textbooks.

13.3.9 Innovations

Various new radiological investigations methods have been introduced in clinical practice with the students, as sonography, CT, 3-dimensional CT.

13.3.10 Plans for Future Changes

There is a need

- for a phantom class for the training of roentgen-diagnosis of dental diseases.
- to change the proportion of lectures, practical works and seminars.

VISITORS COMMENTS – SUMMARISING VIEW (Section 13)

The course in oral and maxillofacial surgery is extensive. It combines 64 hours of lectures with clinical experience in the oral surgery clinic and in the hospital unit where there are wards, clinics and operating rooms. The whole range of specialty clinical activity is open to the students who can see examples of a wide variety of oral pathology and dento- facial injuries and anomalies at all stages of diagnosis and treatment.

There is a steady stream of patients requiring extractions in the Dental Clinic where students operate under supervision. The clinic is often busy and there is an understandable pressure on staff to carry out procedures themselves rather than delegate them to inexperienced learners.

Dedicated sessions of booked patients requiring minor oral surgery could enhance the students competence in this area.

Section 14 - Oral Medicine and Oral Pathology

14.1 Oral Medicine

INFORMATION GIVEN BY THE SCHOOL

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

Taavo Seedre e-mail: taavo.seedre@kliinikum.ee

Staff names, qualifications and email addresses

Taavo Seedre e-mail: taavo.seedre@kliinikum.ee

14.1.1 Introduction

The course of Oral Medicine is covering the symptoms and treatment of the most common diseases of the oral mucosa and perioral skin. It takes place in 6th and 9th term and consists of 8 lectures and 8 seminars and demonstrations.

14.1.2 Primary Aims

- To give essential aspects of most common illnesses of the oral mucosa and perioral skin, concentrating on the clinical features that are important in the differential diagnosis.
- To teach students notice oral problems that may be signs of accompanying cutaneous or systemic diseases.

14.1.3 Main Objectives

- To explain students clinical aspects of anatomy, histology and physiology of normal oral mucosa.
- To study oral lesions and histopathological changes in oral mucosa.
- Infectious diseases of the oral mucosa (viral, fungal and bacterial diseases.)
- Diseases of the lips and tongue.
- Aphthous stomatitis.
- Diseases affecting oral mucosa and the skin.
- Oral manifestation of nutritional and endocrine disorders.
- Oral signs of hematologic disorders.
- Leukoplakia. Allergy signs on the oral mucosa.
- Chronic irritations and drug reactions.

14.1.4 Hours in the Curriculum

See 14.1.1

14.1.5 Method of Learning/Teaching

After the lectures students are preparing certain topics for seminars discussed together. During practical work patients are demonstrated.

14.1.6 Assessment Methods

Written summaries on the special topics, evaluations in seminars.

14.1.7 Strengths

Most patients with disorders of mucous membranes are treated and consulted in university clinic of stomatology.

14.1.8 Weaknesses

There are not many patients to demonstrate to the students.

14.1.9 Innovations and Best Practices

Students can get updated information from two clinics – stomatology and dermatology.

14.2 Oral Pathology

See 13.1 Oral & Maxillofacial Surgery

VISITORS COMMENTS – SUMMARISING VIEW (Section 14)**Oral Surgery, Medicine and Pathology**

The oral and maxillofacial surgery facilities at the Tartu Hospital are by best West European standards old-fashioned, cramped and inconvenient, but it is clear that despite these limitations a dedicated staff provide an optimised and caring clinical service which is alert to modern ideas and techniques. Students have ample opportunity to be fully involved in the work of the department which provides a service to the city and a large rural area of the country (the only other such unit is in Taleun). Specialised pathology and microbiology backup is available from general departments and oral medicine problems are dealt with either at the dental clinic or other OMF department. Students get ample extraction experience at the dental clinic but the amount of minor oral surgery operating they achieve is limited partly by patient availability, but more by pressure on supervising staff. There is scope for development of more specialised radiology instruction.

General anaesthesia and conscious sedation are taught, but, in practice, may only be administered by anaesthetists.

Section 15 - Integrated Patient Care and Dental Emergencies and Special Needs Patients

15.1 Integrated Patient Care

INFORMATION GIVEN BY THE SCHOOL

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

Aleksander Šipria MD, PhD, sen.assist. prof. e-mail: aleksander.sipria@kliinikum.ee

Staff names, qualifications and email addresses

No information given.

11.1 Introduction

No information given.

11.2 Primary Aims

No information given.

11.3 Main Objectives

No information given.

11.4 Hours in the Curriculum

Lectures: 8 h

Practical training: 12 h

1. Lecture: 2 h Introduction. Principles and practices of Safety Orientated First aid. casualty Assessment. Priorities in First Aid.
2. Lecture: 2h. Clinical and Biological Death. Cardiopulmonary Resuscitation. Airway Obstruction. Water accidents. Electrical Injuries. Bleeding and Shock. Unconsciousness. Cold Emergencies.
3. Practical Training: 6 h Cardiopulmonary Resuscitation (ABC). First Aid for Life-threatening Conditions.
4. Lecture: 2 h. (Department of Traumatology and Orthopaedics). Muscle, Ligament and Joint Injuries. Fractures. Head Injuries. Eye Injuries. Injuries of the Spine. Injuries of the Chest. Multiple Trauma. Heat and Cold Injuries.
5. Practical training: 2 h (Department of Traumatology and Orthopaedics). First Aid for Trauma patients. Physical Examination. Bandaging and Immobilization.
6. Practical Training: 2 h. (Department of Surgery). Wounds and Bleeding. Injuries Abdomen and Genitalia. Abdominal Pain. Bleeding from gastrointestinal Tract.

7. Lecture: 2 h Insect Bites and Stings. Injuries from Animals. Tetanus. Rabies. Sudden Illness. Syncope. Seizures. Heart Attack. Asthma. Attack. Childbirth. Paediatric Emergencies. Psychological Emergencies.
8. Practical Training: 2 h. Cardiopulmonary resuscitation (ABC). First Aid for Life-threatening Conditions. Rescue and Transportation.

11.5 Method of Learning/Teaching

No information given.

11.6 Assessment Methods

No information given.

11.7 Strengths

No information given.

11.8 Weaknesses

No information given.

11.9 Innovations and Best Practices

No information given.

11.10 Plans for Future Changes

No information given.

15.2 Dental Emergencies

See Conservative Dentistry 11.1

See Oral &Maxillofacial Surgery 13.1

15.3 Care for Special Need Patients

INFORMATION GIVEN BY THE SCHOOL

This is an important aspect of health care, but it has not been defined as an independent course in the medical faculty. This topic is handled currently during the clinical training (medical + dental)

Plans for Future Changes:

To establish care for special needs patients as a separated course of lectures

VISITORS COMMENTS – SUMMARISING VIEW (Section 15)

❖ INTEGRATED PATIENT CARE

The visitors were very impressed by the dedication of staff to the support of students. However, two aspects of the course conspire to inhibit Integrated Patient Care (i.e. the provision of comprehensive care of all the patient's dental needs by a single student). Firstly the rigid departmentalisation, even within reasonably related disciplines means that the student has to employ considerable entrepreneurial skills to lead and treat a single patient through each discipline. Secondly the cyclical nature of the timetable prevents anything other than a very simple course of treatment being completed by the same student.

It appears that the first and only experience that students have of Integrated Patient Care is an 8 week period at the end of the 4th year during which the student works in a polyclinic or dental practice of the student's choice. This is a positive strength of the course and should be retained and developed further to ease the students' passage from undergraduate to postgraduate practice.

Recommendations

The visitors suggest that the students (and patients) would benefit from a relaxation of the departmental boundaries on clinics and an adjustment of the timetable to facilitate comprehensive, integrated longitudinal patient care for the child and adult. A further measure that may help students to envisage comprehensive patient care would be a merging of assessment into larger areas. Purely in the collegial DentEd spirit, the following groupings are offered to form the basis of discussion: Restorative Dentistry (to include conservation, endodontics, prosthodontics, and periodontology, and to include Occlusion and Function as a core curriculum element rather than an elective element as at present), Childrens and Preventive Dentistry (to include orthodontics, paediatric dentistry, cariology, prevention and dental public health), and Oral Surgery, Oral Medicine and Oral Pathology (to include dental radiology and emergency dental care).

❖ DENTAL EMERGENCIES

The students' training in and experience of managing dental emergencies is fragmented and would not appear to have a timetabled section. Management of medical emergencies is more than adequately covered, and some time from this latter programme could be usefully released to Dental Emergencies.

❖ SPECIAL NEEDS PATIENTS

The School recognises that this is an area that needs to be developed. Facilities for wheel-chair access to the Prosthetic clinic and the dental clinic would need to be provided.

A further aspect that impacts on the students' experience, but is out of control of the school, is the challenge of treating patients under sedation. This should be borne in mind when planning a Special Needs course, as would integration with behavioural science teaching and a revised dental public health course.

Section 16 - Behavioural Sciences

INFORMATION GIVEN BY THE SCHOOL

16.1 Behavioural Sciences

Behavioural aspects of dentistry is not divided into a special course in the curriculum. We have single lectures included in various subjects. Various aspects are discussed on clinical seminars and seminars of occupational health.

Plans for Future Changes:

To establish behavioural sciences into a special course

16.2 Ethics and Jurisprudence

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

Ethics:Tiina Juhansoo, MD PhD, Veski 63, Phone 375 321

First Aid:Alexander Šipria, MD PhD, L.Puusepa 8, Phone 448 412

Nursing: Ilme Aro, MSc, L.Puusepa 8, Phone 448 476

16.2.1 Introduction

“Ethics, First Aid and Nursing” is a complex course, divided into the three parts, consisting of three different subjects: Medical Ethics, First Aid and Nursing.

This course is held on the first year, starting straight from the autumn.

This three subjects are in the curriculum one after the other, starting from the Nursing, then First Aid and Medical Ethics.

The course consists lectures, practical classes, seminars and independent work.

16.2.2 Primary Aims

The aim of the whole course is to give to the students an overview of the basic nursing care, abilities to help people on the level of first aid and give basic knowledge of the meaning of Medical Ethics.

16.2.3 Main Objectives

After the completing the course, student must be able:

- In Nursing:**
- To analyse the meaning of health and illness
 - To define the concept of nursing care
 - To describe and to be able to carry out different basic nursing procedures.
 - To differentiate asepsis from antiseptic, and to use this knowledge in everyday practice
 - To understand hospital infection and possibilities to prevent it
 - To describe some simple diagnostics and treatment procedures

- In Medical Ethics:** To know basic documents, on which are basing today's understanding of medical ethics.
 To understand the role of doctor and patient in the diagnostic and treatment process.
 To know the meaning of "Informed consent"
 To know the local history of developing of medical ethics
 To understand the research process in medicine
 To know some actual problems of our days medical ethics

16.2.4 Hours in the Curriculum

No information given.

16.2.5 Method of Learning/Teaching

Subject/Credits	Lectures	Seminars	Practical work	Independent work
Nursing/0.8 CP	10	-	10	13
First Aid	8	-	12	13
Medical Ethics	4	4	-	6
In total	22	4	12	32

- In Nursing - no patients
 In First Aid - emergency patients
 In Medical Ethics - no patients

16.2.6 Assessment Methods

- Test
 Oral presentations
 Essay
 Assessment of practical activities
 Solving of problems
 In Nursing - no patients
 In First Aid - demonstration of emergency cases
 In Medical Ethics - no patient

11.7 Strengths

No information given.

11.8 Weaknesses

No information given.

11.7 Strengths

No information given.

11.8 Weaknesses

No information given.

11.9 Innovations and Best Practices

No information given.

11.10 Plans for Future Changes

No information given.

16.3 Practice Management**Person in School who will explain and show this to the visitors:**

K.Meiesaar e-mail: kerstim@cut.ee

Staff names, qualifications and email addresses

Associate Professor Kersti Meiesaar, Ph.D. (economics), Head of Chair of Health Economics

e-mail: kerstim@ut.ee;

Professor Raul-Allan Kiivet, Ph.D. (medicine) and Medical Doctor (medicine), Head of Chair of Health Care Management

e-mail: rkiivet@ut.ee;

Lecturer Marina Kaarna, Health Care Management, MD

e-mail: kaarna@ut.ee;

Senior Lecturer Kaja Põlluste, Health Care Management

e-mail: kajap@ut.ee;

Lecturer Tatjana Leoško, Health Economics

e-mail: tanya@ut.ee.

16.3.1 Introduction

Health Economics (1,5 points) and **Health Care Management** (1,5 points) take place in 9th semester and end with written examination. Both courses consists 10 hours lectures and 30 hours seminars/practical trainings.

16.3.2 Primary Aims

- To give basic knowledge about economics and management in the field of health care,
- To give knowledge about actual problems in Health Economics and Health Care Management and to clarify different possibilities how to solve them.

16.3.3 Main Objectives

- concepts of economics and health economics, basic definitions and concepts of microeconomics,
- market in health care,
- analysis of costs and pricing of health care services,
- principles of economic evaluation in health care,

- health care systems and health care financing,
- health care legislation in Estonia,
- basic principles of management,
- principles of health care planning,
- social insurance and social welfare, principles of health insurance in Estonia,
- quality in health care.

16.3.4 Hours in the Curriculum

See 16.3.1

16.3.5 Method of Learning/Teaching

The problem-based lectures and problem-oriented seminars/practical work pushing the students to develop economical and managerial thinking.

16.3.6 Assessment Methods

Test papers, sum of practical exercises and seminars evaluations, written summaries on the special topics.

16.3.7 Strengths

Original written study material in Health Economics, completed study handouts in Health Care Management.

16.3.8 Weaknesses

No information given.

16.3.9 Innovation and best Practices

Small groups (6- 12 students) in seminars and practical exercises. Adaptation of group work in small groups (3-4 students) towards problem-oriented teaching. Individual home work in health technology assessment (HTA) in stomatology in Health Economics (description of an research by using HTA computer databases). Individual home work in Health Care Management – critical reading and discussion of scientific paper. Written test with multiple-choice questions in Health Economics and Health Care Management.

16.3.10 Plans for Future Changes

To publish original textbook in Health Economics (autumn 2000), to write original study material in Health Care Management.

VISITORS COMMENTS – SUMMARISING VIEW (Section 16)

The visitors recognize that the school does not have an identified Behavioural Science course. They strongly recommend that consideration be given to the introduction of a vertically and horizontally integrated course in behavioural science that includes psychology, sociology, and communication skills. This could be at the expense of Public Health teaching.

Section 17 - Examinations, Assessments and Competences

INFORMATION GIVEN BY THE SCHOOL

Person who will show and explain this to the visitors:

Edvitar Leibur

e-mail: edvitar.leibur@kliinikum.ee

1. Assessment is carried out at the end of each academic year/ semester and it is as follows:

- Assessment of theoretical knowledge as written tests with short answers to the questions or oral test answering to the questions covering the necessary material of the subject.
- Assessment of the practical skills depending on the subject taught: during 1st, 2nd and 3rd years - preclinical subjects, later on clinical subjects.

Scoring is based on the system of marks from 5 - 1 (5-very good, 4-good, 3-satisfactory, 2- weak, 1-). The following marks - 5,4,3 are positive.

From the Fall term, 2000 a new system of assessment is introduced and there are 6 marks as follows:

Mark "A" - excellent (the student's knowledge of the subject taught is 91- 100%),

Mark "B" - very good (81-90%),

Mark "C" - good (71-80%),

Mark "D" - satisfactory (61-70%),

Mark "E" - poor, (51-60%),

Mark "F" - unsatisfactory (0-50%).

Usually the final mark represents a mean between the theoretical assessment and the assessment of practical skills. Before the final exam every student has to write a thesis on a topic given by the supervisor or your own choice and present it orally followed by discussion with all the 5th year students.

At the end of 5th year there is a final written summative complex exam with 6 questions, Questions are in Conservative Stomatology, Paediatric Stomatology, Orthodontics, Oral & Maxillofacial Surgery, Children Surgical Stomatology, Prosthetic Stomatology. The Degree in Stomatology (DMD) is awarded

After graduating the University the postgraduate study will followed by one year internship and passing the complex written exam he/she has a right to start with practice as a stomatologist.

2. Students are strongly motivated to pass the exams. A failed exam means usually a delay up to a semester, affecting also to the student's budget.

- 3. Strengths of Oral exams:** A good individual approach. Usually the examiner is in course with the student's strengths and weakness and a certain flexibility in assessing is possible.
Strengths of written exams: Greater objectivity of the examiner. All the data about exams are available in PC at the Dean's Office.
- 4. Weakness of oral exams:** A certain subjectivity of the examiner
Weakness of written exams: impersonal, don't reflect always the professional skills of the student.
- 5. Innovations:**
 A new assessment system (A, B, C, D, E, F) instead of traditional 5-1 score is introduced.
- 6. Plans for the future:**
 Estimate the preference of the new assessment system.
- 7. External examiners** were used some years ago.
- 8. To qualify and register as a dentist** is necessary to pass one year internship after graduating from the University and the complex final exam. Then the graduates get a right to start as a stomatologist and he/she is registered as a stomatologist.
- 9. The School covers the entire spectrum of competences recommended by the European Union Directives.**
 The major discrepancy appear to lie in variations between dental and stomatological basic training, the timing and nature of training and also the point at which a candidate has to commence a specialist training.

VISITORS COMMENTS – SUMMARISING VIEW (Section 17)

Examinations are requested following most subjects either in the form of a pass/fail test or examination based on a scale of 6 steps with the requirements for each step described in detail and common to all the examination at the university. The examination may be oral or written and external or internal examiners (censors) are not used any more. All examinations and test must be passed to proceed in the study. Re-examination is possible 2 times. The number of failures is low in the higher classes whereas the loss of students occurs during the first study year. A record of the individual students exams rests with the Deans Office.

Assessments of clinical competency is only applied in the dental clinic where the students achievements along with the treatment are recorded and signed by the clinical teachers but without qualitative scoring. The record is kept as an inlay in the patient chart. At the end of each course the responsible clinical teacher has to accept fulfilment of the course partly based on these sheets.

There appears to be no minimum quota for acceptance of a given clinical course.

Recommendations

It may be advised that these sheets were organised in a report or log- book, which included comments from the student as well as the teachers on the treatment performed and including notes on quality.

It may be advised to re-establish the use of external examiners as is the rule in European Union countries.

Section 18 - Other Influences

INFORMATION GIVEN BY THE SCHOOL

Mare Saag MD, PhD, docent

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18.1 Regional Oral Health Needs

1,97 million visits were paid to the dentists in Estonia in 1996 which is approximately 10 visits for a dentist a day, as an average 1,3 visits for one Estonian citizen during one year. 20% of the general number of visits were children. The average DMF index for 12 year old children is 4,2 with variation from 2,2 to 6,8 in different areas of Estonia.

We have still lots of people walking around in Estonia with untreated teeth because of lack of money. Adults have to pay for their treatment, which is comparatively expensive comparing to their income. Sick fund covers treatment for certain groups but its fees for dental treatment at the same time are economically not acceptable for dentists.

Though preventive programs for children are established, lots of restorative work among the adult patients is left to be done. So we have to emphasize both aspects.

18.2 Evidence-based Treatment

Within the clinical subjects, much attention is paid to the evidence based treatment. The aim of every patient case discussion is to achieve a better patient examination technique and to prepare a systematized case presentation, establishing the diagnosis on the basis of clinical, laboratory and radiological investigations data, followed by the treatment plan. The students fill up the examination records.

18.3 Involvement in Other University Activities and Sport

Many students are members of student corporations, which are famous for all their old traditions, Association of dental students has become active during last years. There are also many possibilities to go in for sports at the university and town sports clubs. Tartu has two theatres and lots of concerts throughout the year. As Tartu is known as an university town, it has a special atmosphere and many special events for the students.

18.4 Recreation

The amount of auditory work for medical students has been decreased in the new curriculum. So the students have more time for individual work with literature in library and recreation. During the vacation periods our students go hiking and travel a lot nowadays.

18.5 Student Selection Procedures

The candidates present their papers to the student selection committee pointing out their preferences in case they apply for admittance in couple of faculties. They are also interviewed at the deans office. On the basis of the results of the state exams the candidates have passed for graduation from gymnasium the choice is made by the committee.

40 candidates will be accepted for the department of stomatology annually.

18.6 labour market Perspectives

Estonia has a population of 1,454,000 citizens which is unevenly distributed between towns and counties. The number of dentists serving our population is 985 (in1998) + 40 dentists on internship. Fulltime equivalent at the end of year was 1032,5. There is 1 dentist for 1471 inhabitants as an average in Estonia, but the ratio is varying in different counties - for example from 1:3030 in Ida-Virumaa, North-Eastern part of Estonia to 1:700 in Tartu area. We can say that concentration of dentists is much higher in towns. In 1995 38,8% of all dentists worked in Tallinn and Tartu. The countryside is not that well provided with dental treatment. Economical situation has not stimulated to invest in countryside, where it is comparatively less profitable.

64% of dentists work in private sector. As for sex 91% of dentists are female. The age structure of practitioners can be characterised by the data from 1995: younger than 55 72%, 55-59 14,1%; 60-64 7,1%; 65-75 6,6%. Every year 30-40 students are accepted at the Department of Stomatology of Medical Faculty at Tartu University. The same amount of young dentists will be added to the number of dentists in Estonia annually. This is considered to be optimal number to reach and after that maintain the optimal number of dentists needed in Estonia.

Though it is difficult to accept the competition of dentists in bigger towns, rural areas still need our graduates to fill in the empty dental offices.

VISITORS COMMENTS – SUMMARISING VIEW (Section 18)

❖ REGIONAL ORAL HEALTH

Estonia has a population of 1454000 inhabitants unevenly distributed among urban and rural areas. There is as an average per 1471 inhabitants per dentist, but the ratio varies between rural and urban areas. 64% of the dentists are working in the private sector.

Caries is the most prominent dental disease. During childhood 64% of the children have carious lesion of their milk teeth. After the eruption period of the permanent teeth (12 years of age) 84% of the teeth show carious lesions and among adults 84 - 97%. The average activity of caries (DMF) is moderate among 12 year old children (2.7 - 4.4 DMF). The high level (4.6 - 6.5 DMF) occurs in southern an south - eastern Estonia.

If 12 year old children have average 3 - 4 carious teeth than in the youth age (18 - 25 years of age) this indicator raises to 8.1 - 9.5 DMF. At the age of 35 - 44, only 8.6% of women and 4% of men still have all their teeth.

Caries prevention programs for children are established. The prevention of dental diseases is part of the undergraduate curriculum. Dental students can take part in projects based on public health care.

❖ **EVIDENCE BASED TREATMENT**

In lectures and practical works treatment alternatives are discussed. The teachers carry the responsibility for reviewing the scientific literature and presentation to the students.

❖ **INVOLVEMENT IN OTHER UNIVERSITY ACTIVITIES AND SPORTS**

Association of dental students are active during recent years. Many students are members of student corporations. There are many sport clubs at the university and in the city, where students show active participation. As Tartu is known as an university town there are many special events open for the students.

❖ **RECREATION**

In the new curriculum students have more time for individual work with literature in the library and for recreation. During the vacation periods students travel a lot nowadays.

❖ **STUDENT SELECTION PROCEDURES**

The candidates present their papers to the student selection committee pointing out their preferences in case they apply for admittance in two faculties. On the basis of the result of the state exams the candidates have passed for graduation from gymnasium the choice is made by the committee.

Each year 40 candidates are accepted for the department of Stomatology. The applicant to places ratio is 5:1.

❖ **LABOUR MARKET PERSPECTIVES**

Due to the high prevalence of dental diseases in Estonia and the lack of dentists in rural areas the new dental candidates have good opportunities for employment.

Section 19 - Student Affairs

INFORMATION GIVEN BY THE SCHOOL

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

Name of Student representatives:	Fifth Year:	Reet Ansip telephone: 252 89504
		Jane Edel telephone: 255 15 482
	Fourth Year:	Timo Paberit telefon: 256 485 984
		Kristin Räst telefon: 253 925 193
	Third Year:	Sirli Kerge telef: 407 098
		Uku Paal telef: 400 410
	Second Year:	Amur Margus
		Mariana Millermann - mobiili nr. 252 08076

This will be the basis of discussion with visitors.

19.1 Basic Data from the Dental School

- a) Average number of dental students qualifying per year: 35
- b) Average number of dental students admitted to first year: 40
- c) Length of course in years and/or semesters: 5 years/ 10 semesters
- d) Is there a separate period of vocational training following graduation as a dentist in your country?
YES
- e) If yes to d) above, is that organised by the University YES

19.2 List of Postgraduate Courses

- Paediatric Dentistry - 3 years course
- Maxillofacial surgery - 5 years
- Prosthodontics Dentistry - 3 years
- Restorative Dentistry - 3 years

19.3 List of auxiliary/technology/other courses

(with the number who of qualifications in 2000)

- Course for orthodontists, once per year, 30 doctors per year. Topics are announced one year prior to the beginning of the course.
- Course for paediatric dentists, four time per year, about 80 doctors per year, Topics are announced one year prior to the beginning of the course
- Course in Endodontics and Filling Materials 4 courses per year, ~ 100 participants
- Course in Periodontology 3 courses per year ~70 participants
- Course in Mucous Membrane Diseases 2 courses ~30 participants
- Radiological Methods in Diagnostics of Stomatological Diseases ~ 40 participants
- Course in Prosthetic Dentistry 4 courses ~ 100 participants
- Inflammatory processes in Oral and Maxillofacial area 4 courses ~ 120 participants
- Stomatological Nervous Diseases 2 courses ~ 40 participants

- Dental Emergencies 3 courses ~ 40 participants
- Diseases of Temporomandibular Joint - 1 course 20 participants

19.4 Student Counselling

The student counselling services in the University is available in Internet address:

www.ut.ee/tuutorid/english.html

The tutors at the Medical Faculty are the following students: Birgit Volmer, Teele Raiend

The staff members who are tutoring the dental students are as follows: II course - Ene-Renate Pähkla , III course - Jana Olak, IV course - RuthVasar; V course - Eve-Maaja Metsa.

Tutoring Programme of the University of Tartu

Tutoring program of the University of Tartu started in 1996. In the office of Academic Affairs works student counsellor, who:

- Provides information to students, counselling them on study problems (managing studies, individual plan of studies loan etc.) and other topics (medical aid, social welfare etc.).
- Coordinates, instructs and supervises tutors. Tutors follow special course, that gives knowledge about a) university procedures, student rights, student organisations, studies abroad etc. b) practical psychological skills needed. Tutors - students, who have followed that training - deal with groups of 1st year students (8 - 18 members) during their 1st semester at the University of Tartu. Usually tutor advises students of the same speciality.

The main strength of tutoring system: 1st year student have option to get guided by student, who share his/her own experience and knowledge of managing studies, which will diminish possible barrier between student and university.

The main weakness: At the moment not every 1st student has been covered by that program. In 1998 there are 38 voluntary tutors, but more than 1 700 1st year students.

Other possibilities to get counselled: Student Council of the University of Tartu - represents and protects interests of the Student Body at the level of the university administration and in Estonian society.

- Orientation Course for International Students - at the beginning of each semester the International Student Office an orientation course for all international incoming students. This course helps students to adjust living and studying atmosphere in Estonia.
- Freshmen Week ("Rebasnädal" - "Foxes Week") - special tours of events for freshmen, which involves town guidance and different kind of entertainment. During this week organizers (members of two student organisations) give about studies at the University of Tartu and tips for newcomers how to survive at the University of Tartu.

Information: Student counsellor Ülle Kapsi, tel. (27) 375 627.

VISITORS COMMENTS– SUMMARISING VIEW (Section 19)

The visitors met a selection of students and recent graduates. They were articulate, informative, informed and with a good command of English. The students were enthusiastic and loyal about the course and school. They reflected concerns raised elsewhere by the visitors, and also were concerned about the change towards odontology in the course, perceiving this to be associated with a loss of status, and the predicted loss of opportunity for dental clinical experience outside the dental school. This latter opportunity for experience of life in a general dental practice is a strength of the course, and should be retained if at all possible. Students pursuing the more odontologically oriented course will need reassurance regarding their status and specialist dental skills.

Section 20 - Research and Publications

INFORMATION GIVEN BY THE SCHOOL

The following 4 research projects are financed by the Estonian Science Foundation:

- 1) Comparative study of prevalence of dental caries and periodontal disease in 12 and 15 years old schoolchildren in Estonia.
Responsible for the project: Docent Silvia Russak
- 2) Study of osseointegration based on the treatment of acquired dental arch and jaw defects with implants.
Responsible for the project: Professor Edvitar Leibur
- 3) Efficacy of orthodontic treatment with standardized appliances.
Responsible for the project: Docent Rita Nõmmela
- 4) Incidence and structure of congenital anomalies of maxillofacial region in Estonia.
Responsible for the project: Professor Maie Kalnin

There is a Joint research project with Karolinska Institute (KIRT/KEMP) and the University of Tartu as follows:

- The effect of serotonin antagonists on temporomandibular joint hyperalgesia and pain in patients with rheumatoid arthritis. Joint research project with Karolinska Institutet.
Supervisors: Professor Edvitar Leibur, Professor Sigvard Kopp

By the Ministry of Social Affairs is financed the following project:

- Prevalence of oral and dental diseases and teaching of its prevention in schoolchildren.
Responsible for the project: Docent Silvia Russak

By the Estonian Sick Fund is financed the following project:

- Prevention of oral and dental diseases in 5-6 years children.
Responsible for the project: Docent Silvia Russak

20.1 Publications in refereed journals

There are 13 publications during past 36 months in refereed Journals and 4 publications in the scientific Journal "Estonian Physician" (is also refereed Journal in Estonian).

In addition, 4 papers have been published in Rostoker Medizinische Beiträge, 5 publications in the Medical Faculty of the University of Tartu, and 1 submitted to the International Journal.

20.2 Number of textbook published by staff

Nine (9)

20.3 Number of chapters in books

Five (5)

20.4 Grants received:

Seven (7).

20.5 Number of invited presentations at international meetings

Four (4)

20.6 List of Publications during the last 36 months (refereed in International Journals)

- 1) Leibur E, Kahar A, Jin LJ, Söder P-Ö. Computerized image analysis of alveolar bone regeneration in advanced periodontal disease following osseous grafting. *Oral Surgery, Oral Diagnosis* 1997;10:7-11.
- 2) Peltola JS, Juhani, Wolf J, Männik A, Russak S, Seedre T, Sirkel M, Vink M. Radiographic findings in the teeth and jaws of 14-to 17-year-old Estonian schoolchildren in Tartu and Tallinn. *Acta Odontol Scand*, 1997;55:31-35.
- 3) Kauko K, Mäkinen KK, Olak J, Russak S, Saag M, Seedre T, Vasar R, Vihalem T, Mikelsaar M, Mäkinen P-L. Polyol-combinant saliva stimulants: a 4-month pilot study in young adults. *Acta Odontol Scand*, 1998;56:1-5.
- 4) Mäkinen KK, Olak J, Russak S, Saag M, Seedre T, Vasar R, Vihalem T, Mikelsaar M, Mäkinen P-L. Poyol-Combinat Saliva stimulants: a 4 months pilot study in young adults. *Acta Odontologica Scandinavica*, 1998,2:90-94.
- 5) Салум О. Изменения в поверхностной морфологии эпителия в связи со съёмными зубными протезами. *Проблемы нейростоматологии и стоматологии, Медицина* 1998,2: 25-31.
- 6) Saag M, Russak S, Vasar R, Olak J. Dental Caries in Estonia. *Suomen Hammaslääkärilehti. Helsingi, Forssan Kirja paino Oy*, 1998,13,4:116-123.
- 7) Dragheim E, Saag M. A Comparative Analysis of Oral Health Policy and Public Dental Health Service for children in Estonia and Denmark. *Tandlagernes nye Tidsskrift, Kopenhagen, Sartryk*, 1998, 13,4 116-123.
- 8) Пинтсон Ю, Лейбур Э, Салум О, Вийкман В, Рятсеп Р. Сравнение пластиночных и винтовых имплантатов после 10-и 6-летнего использования. Ретроспективное исследование. *Novoe v Stomatologii. Moscow*, 1998,3:63-69.
- 9) Leibur E, Tuhkanen A, Pintson Ü, Söder P-Ö. Prostaglandin E2 levels in blood plasma and in crevicular fluid of advanced periodontitis patients before and after surgical therapy. *Oral Diseases*, 1999,5:223-228.
- 10) Jagomägi T, Kalnin M, Soots M. Occlusal anomalies in cleft lip and palate patients and their first-degree relatives. *Medicina*, 1999,4:95-98.
- 11) Metsa EM. Epithelization of parodontal wound. *Medicina*, 1999,4:201-205.
- 12) Ernberg M, Voog Ü, Alstrgren P, Lundeberg T, Kopp S. Plasma and Serum Serotonin Levels and their relation to Orofacial pain and Anxiety in Fibromyalgia. *Journal of Orofacial Pain*, 2000,14(1):37-46.
- 13) Voog Ü, Alstrgren P, Kallikorm R, Kopp S, Leibur E. Immediate Effects of the Serotonin Antagonist Granisteron on Temporomandibular Joint Pain, Hyperalgesia and Allodynia in Patients with General Inflammatory Disorders. *Life Science* (submitted for publication).

VISITORS COMMENTS – SUMMARISING VIEW (Section 20)

Estonian Science Foundation finances four research projects:

- 1) Comparative study of prevalence of dental caries and periodontal diseases in 12 and 15 years old schoolchildren in Estonia,
- 2) Study of osseointegration based on the treatment of acquired dental arch and jaw defects with implants,
- 3) Efficacy of orthodontic treatment with standardized appliances,
- 4) Incidence and structure of congenital anomalies of maxillofacial region in Estonia.

Ministry of Social Affairs finances the project "Prevalence of oral and dental diseases and teaching of its prevention in schoolchildren".

Estonian Sick Fund finances project "Prevention of oral and dental diseases in 5 - 6 years children".

There is a Joint research project with Karolinska Institute "The effect of serotonin antagonists on temporomandibular joint hyperalgesia and pain in patients with rheumatoid arthritis".

Seven staff members Grants received.

There are 13 publications in refereed Journals and 4 publications in the Estonian refereed journal "Estonian Physician" during last 36 month. It is 0.7 publications for one Academic Staff member during last three years.

It is necessary to support research development at the Department of Stomatology University of Tartu.

Section 21 - Quality Development or Continuous Improvement, Policies and Schemes

INFORMATION GIVEN BY THE SCHOOL

21.1 Responsible Person

Professor Edvitar Leibur, PhD, Head of the Department of Stomatology

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21.2 Quality Assurance Concept

21.2.1 Introduction

The Estonian Republic, a former Soviet-bloc state, is an applicant to enter the European Community. It seeks to enter international, especially European mobility schemes for the purpose of comparison of its curricula and the skills of its graduates/dental profession with the European standards. In consequence, growth in quality of education/dental practise is expected.

Traditionally, the staff of the only Department of Stomatology in the country feel responsible for all aspects of quality management in the whole dental field (i.e. treatment and health organisation) and, for this purpose, cooperate with all the dental organisations of the Estonian Republic. For this purpose, monthly sessions of the Head of Department of Stomatology with its Clinic Director, Heads of the Clinic Sections, Chief Nurse, senior staff and invited guests are scheduled.

21.2.2 Odontology versus Stomatology

In Europe, there is a convergence of two systems Odontology and Stomatology towards better dental education and professional training. Odontology is a specially structured programme for dental students and a vast majority of dental schools all over the world have adopted this format. Stomatology is an educational concept based on medical education adapted to the special needs of dental education and training, either by an additional training after medical graduation or intertwined with medical education.

The Tartu Dental School is not yet entirely convinced that for Estonia the shift from stomatology towards odontology is the way to go for the following reasons:

- The Tartu Dental School has a tradition of excellence in teaching and training stomatologists,
- Staff are convinced that dental students should have the opportunity to study all the subjects of clinical medicine. This conviction is supported by the WHO-concept "Unity for Health" and the ADEE-plea for implementation of more medical subjects in the actual dental curriculum,
- Staff believe that dentistry is a field of medicine and are convinced that in the actual curriculum there is no excess of medicinal content.

The Department of Stomatology intends to implement a quality development concept which gains from the experience of the DENTED-visit, international contacts and exchange.

21.2.3 Developmental Strategy

Up to now, under the circumstances of profound change in social and educational structures, institutional quality management has been weak: There is no systematic collection and analysis of data on input, current processes and outcomes at the Department of Stomatology.

For the future it is planned to improve quality with regular analyses and self-evaluation against aims and objectives, good practice and areas of concern by a "quality assurance and enhancement officer". Students will be regularly asked to evaluate the quality of lectures and practical work, and of their teachers by questionnaires. Analyses of these data will give a good feed-back about the daily work and an impact on the speed of development.

It is hoped that these measures will enhance the quality of teaching remarkably - enhancement of quality has already started by switching into the DENTED-project.

The aims of future quality management will be:

- to promote the educational system towards higher standards of dental education and patient health care,
- to provide future dentists with an ethical and appropriate scientific approach,
- to avoid prescriptive approach based on one's own system of training in order to understand and accommodate other systems,
- to promote dental education towards stomatology with more medical based curricular standards.

From the latter, an integrated review of the curriculum will occur with involvement of international collaboration.

21.4 International Contacts

21.4.1 Memberships of the International Associations

- The Department of Stomatology is the member of ADEE - Association for Dental Education in Europe.
- Staff are members of the following associations:
 - International Association for Dental Research (M Saag, E Leibur, O Salum, M Soots, M Kalnin)
 - European Orthodontic Society (R Nõmmela, T Jagomägi)
 - World Federation of Orthodontics (R Nõmmela, T Jagomägi)
 - Baltic Association for Orthodontics (R Nõmmela, T Jagomägi)
 - European Association for Cranio-Maxillofacial Surgery (E Leibur - Councillor, A Tuhkanen, M Soots, T Tamme, Ü Pintson)
 - International Association of Oral and Maxillofacial Surgery (E Leibur, M Soots)
 - International Association of Paediatric Dentistry (S Russak)
 - Baltic Association for Prosthetic Dentistry (O Salum, A Korrovits, I Koll)

21.4.2 International Undergraduate Training

The Department of Stomatology cooperates with

- Karolinska Institutet: In spring 1997 four Tartu students graduated, after completing pre-clinical studies at the University of Tartu.

- Turku University: In 1997 five students graduated.
- Helsinki University: There is a student exchange programme.

21.4.3 International Postgraduate Training

- **Master of Science degrees** have been awarded to staff members from the University of Kuopio:
 1. Triin Jagomägi in Orthodontics,
 2. Lauri Vahtra in Periodontology.
- **Joint research projects for PhD degrees** are completing by postgraduate students:
 1. Ülle Voog (Karolinska Institute and University of Tartu)
 2. Helene Soomer (University of Helsinki and University of Tartu)
 3. Jana Olak (University of Turku and University of Tartu)
 4. Triin Jagomägi (University of Kuopio and University of Tartu)

21.4.4 Staff Visits abroad

Guest lecturers by E Leibur, M Saag and R Nõmmela several times at Karolinska Institutet, E Leibur at the University of Kuopio, E Leibur and M Kalnin at the Minsk Medical Institute, E Leibur at the Moscow Medical Institute of Stomatology, T Seedre and M Saag at the Central Research Institute of Stomatology in Moscow, E Leibur and M Kalnin at the St.Petersburg 1st Medical Institute.

21.4.5 Scientific Presentations at International Meetings

Staff contribute to meetings, organized by the international associations, where they have membership: In 1999 29 reports were presented at International Meetings. Some of the staff members have been invited to chair scientific sessions.

Section 22 - Visitors Executive Summary on the Tartu Dental School

Professor Edvitar Leibur and her colleagues in Tartu made every effort to facilitate our visit. The documentation was comprehensive and gave us an excellent starting point for our appraisal. All relevant sites and services were opened to us and we met a wide variety of staff from all parts of the faculty of Medicine. In addition, we met the newly appointed Dean, Professor Toomas Asser, on two occasions and were received by the Vice-Rector, Valli Kalm. Their support for the Dental School was evident. The physical and curricular achievements of the last few years owe much to the organisation of the dental staff under the Dental Dean's leadership. It was obvious to us that our colleagues had succeeded in winning a fair slice of limited resource in competition with all the other familiar University priorities.

The school is firmly based in a strong and proud tradition of medically based stomatology but has been opened to other ideas and influences in a way which promises well for the future. The profound political and social changes of the last decade in Estonia have created an atmosphere of enthusiasm for change and development, and we are confident that the lively group of students we met will be well prepared to play a full part in an exciting future for the dental profession in Estonia.

The final conclusions of the visiting team are presented as a series of headings – more detailed arguments and the evidence for this are to be found in the substance of the report. We hope we have provided a stimulus for the further development of dental education in Estonia and an affirmation to all of the high standards achieved by the DMD graduates of the University of Tartu.

Appendix

Our main conclusions are presented as an appendix developed from those we presented in Power Point slide format to our colleagues just before our departure:

Positive aspects:

- ◆ A good course
- ◆ An excellent dedicated staff
- ◆ Able and well motivated students
- ◆ Strong leadership and advocacy
- ◆ Biomedical foundation of the course
- ◆ Openness of the Institution in inviting DentEd
- ◆ Reception and assistance during our stay
- ◆ Campus environment
- ◆ Superb new facilities
- ◆ Support for student clinical experience is good
- ◆ Possibility of extra-mural clinical activities

- ◆ Management of change (exceptional in speed and extent)

Weaknesses

- ◆ Little horizontal and vertical integration of subjects
- ◆ Limited input of current educational ideas, e.g. very teacher centred
- ◆ Lack of behavioural science course i.e. Psychology, Sociology, Communication Skills
- ◆ Dispersed library facilities
- ◆ Problems with students following through treatment of their patients, caused by the cyclic organisation of clinical training
- ◆ Graduate's competence in periodontal and minor oral surgery is marginal

Suggestions

- ◆ Supply overall course documentation to students annually
- ◆ Provide explicit description of expected clinical competency staged by year/semester
- ◆ Introduce reflective logbook of clinical experience
- ◆ Utilise student feedback
- ◆ Reschedule student clinic allocation
- ◆ Support research staff
