Financial Agreement number: 39501-CP-2-98-1-IE-ERASMUS-ETN

FINAL REPORT

DENTED Site Visit

FREIBURG

23 – 27 January 1999

INFORMATION FOR DENTED VISITORS

The school is asked answer these questions using the reference numbers for each section. Explanations and description of courses and structures from the host school are essential pieces of information for the visitors before the visit.

Name of School:	**Klinik für Zahn-, Mund- und Kieferheilkunde Universität Freiburg i. Br.**			
Address:	Universitäts - ZMK - Klinik Hugstetter Str. 55 D – 79106 Freiburg i.Br. / Germany			
Dean of School:	**Prof. Dr. J. R. Strub**			
	e-mail:	strub@zmk2.ukl.uni-freiburg.de	fax:	+49-761-2704925
Contact Person:	**Prof. Dr. I. Jonas**			
	e-mail:	gremmler@zmk2.ukl.uni-freiburg.de	fax:	+49-761-2704852
Secretary assigned to Visitors by School:	**Ms. Kerstin Isenmann**			
	e-mail:	Isenmann@zmk2.ukl.uni-freiburg.de	fax:	+49-761-2704762
Dates for visit:	January 23 to January 27, 1999			
Visitors (to be confirmed):				
	Chairperson: **Rohlin, Madeleine** Oral Radiology, Malmo			
	e-mail:	madeleine.rohlin@od.mah se	fax:	+46 40 322 169
	Rapporteur: **Clarkson, John** Public Dental Health, Dublin			
	e-mail:	jclrkson@dental.tcd.ie	fax:	+353 1 612 7298
	Zelles, Tivadar Oral Biology, Budapest			
	e-mail:	zeltiv@net.sote.hu	fax:	+36 1 303 2436
	Doukoudakis, A. Prosthodontics, Athens			
	e-mail:		fax:	+30 1 778 1744
	Allen, Bill General Dentistry, United Kingdom			
	e-mail:	Wh32@dial.pipex.com (RTF)	fax:	+44 376 552 337

Section 1: Introduction and General Description

Dental Hospital University of Freiburg

The University of Freiburg was founded in 1457 by the Archduke Albrecht VI. of Austria. The School of Dental Medicine is part of the Medical Faculty, which is one of the three oldest faculties of the university. The training in dentistry started at the end of the 19th century and led to the foundation of a University Dental Institute in 1911. Due to the increase in dental students and the two world wars, the location of the Dental Hospital changed several times. Today's building, constructed between 1956 - 1960 and expanded between 1973 - 1975, is located at the campus of the University Medical Hospitals close to the centre of the city. It includes the hospital complex of the Department of Maxillofacial Surgery. In 1957, the dental discipline became independent with the appointment of the first chairman. Today, the school has four chairpersons (Prosthodontics, Operative Dentistry and Periodontology, Oral and Maxillofacial Surgery, and Orthodontics) which are members of the Medical Faculty. January 1st, 1998, the legal status of Dental and Medical Hospitals in the state of Baden-Württemberg changed; it was converted into a public institution of the university. However, undergraduate student education and research continue to remain within the responsibility of the Medical Faculty, i.e. the University.

The School of Dental Medicine provides a five-year dental education programme (= 10 semesters) which finishes with the final university examination in the 11th semester. The school trains today about 490 undergraduate students. Each semester, about 40 newcomers enrol in the first semester programme. The curriculum as defined by a German federal law divides the programme in a 2.5-year preclinical and a 2.5-year clinical section. The first five semesters include the education in basic medical science. The programme is designed to provide skilled and knowledgeable dentists for a society in which special emphasis is placed on prevention and on a health care delivery system rapidly increasing in complexity.
The Dental Hospital has about 20 postgraduate students. In anticipation of specialist recognition the School and Hospital has implemented training programmes in Oral Surgery, Maxillofacial Surgery, Orthodontics and Prosthodontics (recognized by the German societies of Prosthodontics and Dental Materials). The school prepares programmes for certified qualifications in Endodontics, Pediatric Dentistry, Periodontology, Operative and Preventive Dentistry. In addition, about 6 trainee dental nurses and 6 student nurses are admitted annually. A dental technician's education is taught over a 3.5-year period and two students are admitted every fourth year. The School also provides a continuing education programme for dental practitioners.

The School's interests in research concentrate, among others, on implantology, periodontology, caries prevention, orofacial pain, biocompatibility of dental materials and treatment of patients with craniofacial deformities.

The city of Freiburg i. Br. (about 200.000 inhabitants, among them 24.000 students) is located at the foot of the Black Forest and in close vicinity to the French and Swiss borders. It is surrounded by a rural area which is famous for its vine yards and it´s scenic beauty.

Section 2: Facilities

(including Library, Lecture Theatres, Seminar Rooms etc.)

Person in School who will explain and show this to the visitors:
Name: Prof. Dr. H.-G. Schaller
e-mail: Schaller@zmk2.ukl.uni-freiburg.de
fax: +49 761/2704762

2.1 Clinical facilities

The dental school includes several floors which are dedicated for clinics, dental laboratories and research laboratories. The ground floor includes the Orthodontic Clinic, Admission Clinic and Radiology, the laboratory for dental technicians, Emergency and Phantom laboratory. The first floor is occupied by Operative Dentistry, the second floor by Prosthodontics and the third floor is occupied by Maxillofacial Surgery, the Library and Administrative Offices. A separate building includes the preclinical laboratory and the main lecture hall which seats 200 students. The clinical facility is new. It is maintained very well and includes 120 dental operating units.

Visitors Comments

The visitors considered the clinical facilities to be excellent and of high standard. The maintenance was well looked after and there is an infection control protocol in effect for the clinics. The ratio of faculty to students is 1-8. The number of dental chairs available in the building is adequate to carry out the clinical programme. The fact that senior students assist each other seems well founded from an educational point of view and it results in cost savings in nursing services.

2.2 Teaching facilities

There are two large lecture theatres, one for 200 students and one for 40 students for the use of the 3rd, 4th and 5th year students.

Visitors Comments

The theatres are well equipped for lectures. However, the facilities for small group teaching are limited.

2.3 Teaching Laboratories

Visitors Comments
There are two main teaching laboratories. The laboratories are very well equipped with modern equipment. They have the facility to use audio/visual aids from a central teaching unit. The equipment and materials used are similar to those in the clinical facilities.

2.4 Research Laboratories

Research laboratories are attached to each department and the centre for Experimental Dentistry is separate.

Visitors Comments
Research Laboratories are available for each Department and are of excellent standard and well equipped. The Research Centre for Experimental Dentistry is also well equipped.

2.5 Library

There is one library in the Dental School which is open during normal weekly hours:

Monday to Friday 8.00 - 12.30 am
Monday to Thursday 15.00 - 18.30 pm

Visitors Comments
The library is small and is in the traditional mode with limited opening hours. It is restricted to books and journals and there is limited space for study. Students tend to study at home or in the university library.

2.6 Information Technology

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

Name: Thomas Joerke
Group of Computer Engineering at Dental School of Albert-Ludwigs-University Freiburg
e-mail: joerke@zmk2.ukl.uni-freiburg.de
phone: ++(49)-(0)761 – 270-4787
fax: ++(49)-(0)761 – 270-4876

Overview:

The local area network used in dental school ZMK Freiburg consists of different systems depending on the purpose for what it is used for.
Server

1. Database Server:

Hardware / Operating System: Sun-Solaris / UNIX

Software: Oracle Database

This system is containing all of the datas in our documentation system Highdent™ (of CompuGroup, Koblenz, Germany) about patients which have contact in our house.

2. Image Archive Server:
Hardware / Operating System: PC-Server / Windows NT

Every image modality (i.e. CT, US) which is taken for patient examination is stored on this central server. This helps for viewing images on every viewing station all over the dental school. (this is work in progress).

3. File / Program Server:
Hardware / Operating System: PC-Server / Windows NT

Holding every file of daily work which can not assigned to platform 1 and 2. This means every research result or publication is stored. Every program (office programs or special program solutions with particular databases) is placed on this server.

Clients

In our dental school in Freiburg we have an inhomogeneous hardware environment for our PC-clients. This depends on the time in which the particular personal computer was bought. So we decide to perform a careful substitution to upvalue the existing hardware with ram and mass-storage to come to an homogeneous hardware platform to be able to install the same operating system Windows NT. As a sideffect we hope that this leads to a decreasing expenditure of maintenance.

This local area network described above is connected to the campus net (wide area network), which is necessary for exchanging datas from PDV-FR (Patientendatenverwaltung Freiburg) patient data management Freiburg.

The PDV-FR system is responsible for getting/holding the base datas. This is performed via magnetic card of the health insurance company. It takes datas like name of the patient, date of birth and if the patient comes for the first visit, an initial PIN (patient identification number), which will be assigned to this patient.

Documentation System

For documentation we use a program named Highdent™. This is a software which is developed especially for the needs of the dental schools in Baden-Württemberg (at Tübingen, Ulm, Heidelberg and Freiburg). A steering commission of Land Baden-Württemberg in Stuttgart is watching the progress and eliminates misleading problems, e.g. different views between the CompuGroup and the dental school which is named responsible for prototyping of solving a part of the documentation.

The main benefits of this software have to be

- A useful tool for every dentist who is managing patient data in electronic form.
- An intuitive tool for operating datas on a personal computer.

The Highdent™-software is divided into two main categories:

- Base documentation and
- Documentation for the department (Dept. of Oral and Maxillofacial Surgery, Dept. of Orthodontics, Dept. of Conservative Dentistry, Dept. of Radiology and Dept. of Prosthodontics).

The participants are invited to take a closer look at the usage of the program at their DENTED-visit here in Dental school Freiburg.

Visitors Comments

The IT system is primarily designed to provide; a database for patients attending the hospital, including treatments provided by staff/students; to store all images on a central server; and is a management system for the school and hospital. The school/hospital received a large grant to introduce the system in collaboration with three other dental schools. The software program “Highdent” appears to work well. Direct access to the system is limited to staff. The students have access only under supervision. Students can access the Internet through limited facilities in the library, but carry out much of this work on their own computers at home.

Planned Developments

The plans for another expansion of the main building of the Dental School are finished. The project has already been approved by the Medical Faculty and has reached the phase of approval by the Ministry of Finance and the Ministry of Science and Culture State Baden-Württemberg. The expansion will result in an space increase of 480 m² which will be used nearly exclusively for educational and research facilities (= research labs, rooms for small group education including the installation of computer stations for undergraduate students). The reconstruction includes an expansion of the area of the operating-theatres for the Oral and Maxillofacial Department on the ground floor (695 m²) and includes the transfer from the operating-theatres from the 6th floor to this level. The space gained on the top floor will also be used for educational purposes.

The reconstruction will probably start in 2001/2002.

Section 3: Organisational and Administrative Structures

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

Name:_Prof. Dr. I. Jonas
e-mail: Gremmler@zmk2.ukl.uni-freiburg.de
fax: +49 761 270 4852

The following four charts describe the administrative structures of the school and its relationship within the University.

Medical Faculty as Part of the University Freiburg

University

Rector´s Office

Academic Sector

Senate

15 Faculties
(Incl. Medical Faculty)

Budget Sector

Administrative Council

Structure of the Medical Faculty

Medical Faculty

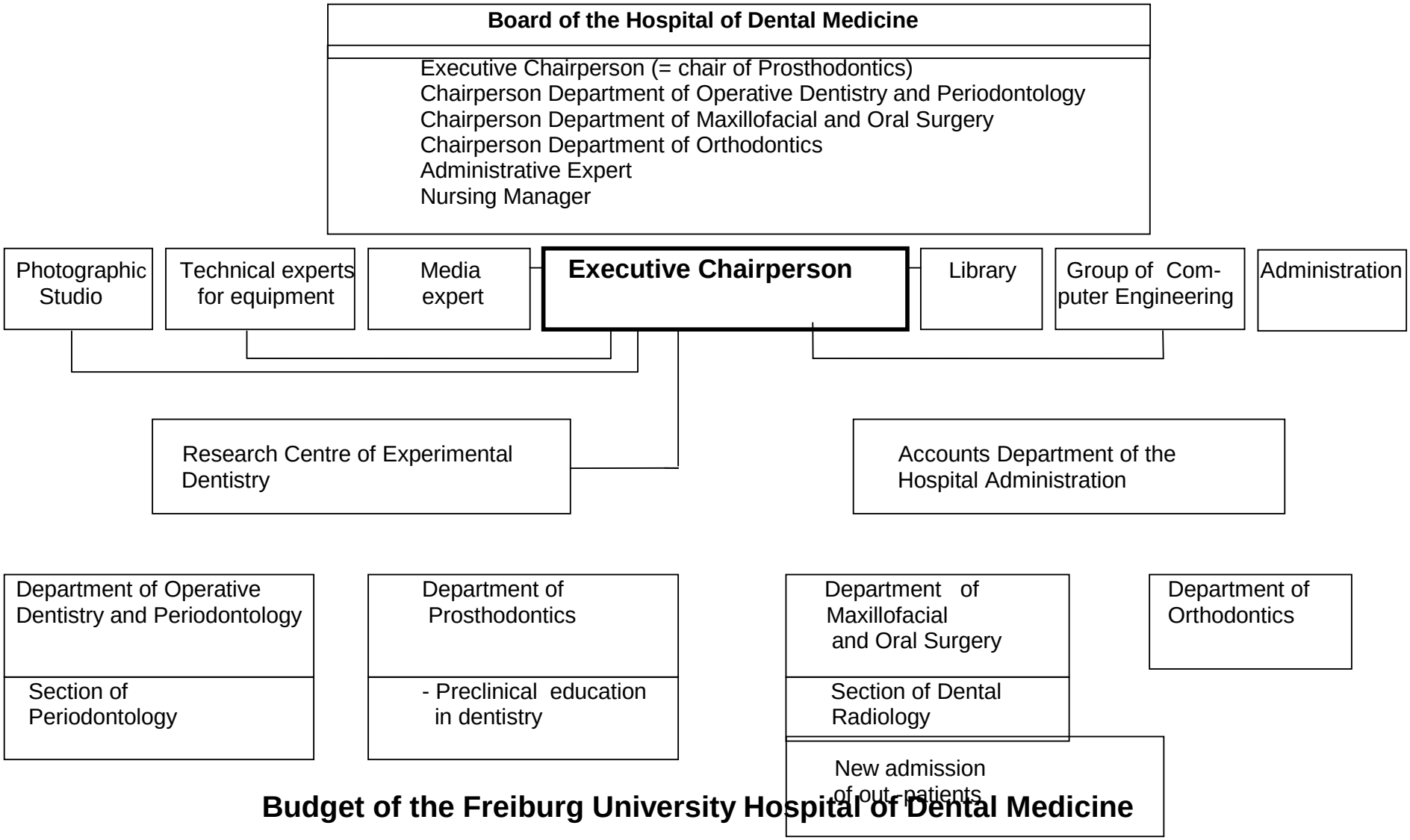
Dean

Faculty Board

- Paraclinical Institutes of the Rector´s Office
- Hospitals of the University Hospital Complex
- Institutes of the University Hospital Complex

Financial Agreement number: 39501-CP-2-98-1-IE-ERASMUS-ETN

Structure of the Hospital of Dental Medicine



Budget of the Freiburg University Hospital of Dental Medicine

1/3 Patient	2/3 Education

Financial Agreement number: 39501-CP-2-98-1-IE-ERASMUS-ETN

Visitors Comments

The charts supplied describe the structure in detail. The Dental School is part of the Medical Faculty. A formal structure exists between the Medical Faculty and the Dental School and this resembles other Universities in Germany. The source of funding can be seen in the charts and comes direct from the Medical Dean to the individual Departments.

Two thirds of the funding is for education (based on the number of students) and research and these areas are well funded. The service component budget comes from the hospital board and is not as well funded.

Section 4: Staff

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

Name: Prof. Dr. I. Jonas
e-mail: Jonas @zmk2.ukl.uni-freiburg.de
fax: 49-761-270 4852

4.1 Staffing Levels

Although the level of staffing will be available to the visitors from the information from the web site please complete the section on the next page for the purposes of visitation:

Hosts' Views

Strengths:

- High percentage of long-term employees.
- Increased number of high-qualified staff.
- High solidarity within the departments.
- High motivation.
- International staff.

Weakness:

- Restricted prospect of promotion.
- Restricted number of long - term academic positions.
- No payment according to performance but according to civil servants statutory salary scale.
- No adaequate payment for dental hygienists compared to private practice.
- Dismissals are difficult.
- Unflexibility in working hours.
- Shortness of non - clinical academic staff.
- Shortness of higher - educated dental nurses.

- Shortness of qualified staff for EDP.

Innovations:
- Continuous education for academic and non-academic staff.
- Educations in electronic data processing etc..

Clinical Academic Staff Statistics:

Professors	8
Other Senior Non-Professorial Staff	14
Non Senior Full-time Staff	51
Part-time Whole-Time Equivalent Staff	-
Other Non-Clinical Academic Staff:	
Senior	7
Non-Senior	-
Administrative/Secretarial Staff	15
Nursing Staff	91 (56 dental nurses, 35 nurses)
Dental Technicians	17
Remaining Staff	52

Professors:

STRUB, Jörg R.	Deaprtment of Prosthodontics
HELLWIG, Elmar	Deaprtment of Operative Dentistry and Perio
JONAS, Irmtrud E.	Deaprtment of Orthodontics
SCHMELZEISEN, Rainer	Deaprtment of Maxillofacial and Oral Surgery
DÜKER, Jürgen	Deaprtment of Maxillofacial and Oral Surgery
KAPPERT, Heinrich F.	Research Centre of Experemintal Dentistry
KREKELER, Gisbert	Deaprtment of Operative Dentistry and Perio
SCHALLER, Hans-Günther	Deaprtment of Operative Dentistry and Perio

Other Senior Non-Professorial Staff:

ATTIN, Thomas	Deaprtment of Operative Dentistry and Perio
FAKLER, Otto	Deaprtment of Maxillofacial and Oral Surgery

FRUCHT, Sibylle	Deaprtment of Orthodontics
GELLRICH, Nils-Claudius	Deaprtment of Maxillofacial and Oral Surgery
HAHN, Petra	Deaprtment of Operative Dentistry and Perio
KIELBASSA, Andrej	Deaprtment of Operative Dentistry and Perio
KOHAL, Ralf	Deaprtment of Prosthodontics
LAUER, Günter	Deaprtment of Maxillofacial and Oral Surgery
OTTEN, Jörg-Elard	Deaprtment of Maxillofacial and Oral Surgery
RÜBEL, Sebastian	Deaprtment of Orthodontics
SCHMIDT, Rita	Deaprtment of Orthodontics
SCHWARZ, Ulrich	Deaprtment of Maxillofacial and Oral Surgery
TÜRP, Jens	Deaprtment of Prosthodontics
WRBAS, Karl-Thomas	Deaprtment of Operative Dentistry and Perio

Visitors Comments

4.2 Senior Staff Affairs

It appears that the number of senior staff members is small comparing to the educational and research activities of the school

4.2.1 Faculty feel that they are part of a strong dental school and their work is well respected by the students and their peers. Thus the staff feel that the school is providing good education to their students and at the same time it has sound research activities. However they also feel that with the existing dental curriculum there are very few changes that can be carried out because there is no time available for new topics and courses.

4.2.2 Faculty would like to have more research time and evaluation criteria which will count to their promotion. They would also like to have time for personal development and participation in educational initiatives that could change the present methods of delivering knowledge in the dental field.

4.2.3 There is a lack of an organised staff development program in the school Personal development seems to be an individual effort of each member and arrangements that can be worked out with the department chairperson. There are good research opportunities for senior staff members due to the research orientation and facilities of the school. However, there is little time allocated for research and any activity that may be undertaken by a senior faculty must come from their free time. This creates an additional pressure on the senior staff members since their promotion relies heavily on publications and research efforts.

4.2.4 Staff consider best practices as the ability to produce a dentist who will feel capable to do most of the restorative procedures which are required in a dental practice. The educational program is clearly structured in this direction.

4.2.5 Staff would like to see the law which outlines the dental curriculum to be updated and give the opportunity to the dental schools to develop a curriculum which is more flexible and provides time to introduce other subjects and topics. This would

allow them to adjust to the changes that are constantly developing in dental education. They would also like to see a process where the dental curriculum can be evaluated and changes can be made if necessary. Specifically they would like to see a preventive program which will be organised for the students in the preclinical years. In this way the students will be introduced to patient treatment earlier than is presently done.

4.2.6 The limited number of professional positions and the young age of the chairpersons may create problems of long waiting periods for promotion and migration of senior staff members to other dental schools.

Visitors Comments

The age profile of the staff is relatively young as retirement of a number of senior staff took place in recent years. This has resulted in a very dynamic young faculty, however it also limits promotional outlets in the future.

4.3 Non Senior Staff Affairs

There is a large number of non senior staff members which carry out a major portion of the undergraduate preclinical and clinical education.

4.3.1 There is lack of career development programs for non senior staff members. It seems that programs depend primarily on the senior staff members and the department chairpersons.

4.3.2 Research opportunities exist at a high level and junior staff are expected to produce research and publications. There is however little research time allocated and research activitiy must be generated from their own free time since the time at the school is strictly allocated for education and for treating patients.

4.3.4 The visitors are of the opinion that non-senior staff members feel proud to be a part of the dental school. They also feel good that they can take part in the education of dental students and have responsibilites and authority early in their carreer. However, non-senior staff members have little part in the decision making process on the curriculum and on school or hospital matters.

4.3.5 The visitors feel that non-senior staff members like the fact that the programme gives the opportunity for the students to treat a reasonable number of patients and as a result the students are well prepared to address the daily procedures in a dental practice. Non-senior staff members agree that the curriculum is too rigid and there is no free time to be allocated to other educational activities.

4.3.6 The visitors did not receive any proposals for curriculum improvement by the non-senior staff members.

4.3.7 The visitors strongly feel that non-senior staff members are very dedicated to their work and exhibit enthusiasm, motivation and committment. They are a very dynamic nucleus from which the future academicians will evolve very successfully.

Sections 5 - 16: The Dental Curriculum

Curriculum in dental education Federal Republic of Germany:
Physics: 2 semester-lecture, 1 semester-course
Chemistry: 2 semester-lecture, 1 semester-course
Biology: 1 semester-lecture

(Scientific Preliminary Examination)

Physiology: 2 semester-lecture, 1 semester-course
Biechemistry: 2 semester-lecture, 2 semester-course
Anatomy: 3 semester-lecture, 1 semester-course
Histology and Embryology: 1 semester-lecture
Microscopic – Anatomical course: 1semester
Introductory Course of Clinical and Lab Procedures
Preclinical Phantom Course I
Preclinical Phantom Course II (in the lecture-free period between 2 semesters) Dental Materials: 2 semester lecture

(Dental Preliminary Examination)

Lectures:
Introduction into Dentistry: 1 semester-lecture
General Pathology: 1 semester-lecture
Special Pathology: 1 semester-lecture
General Surgery: 1 semester-lecture
Otorhinolaryngology:1 semester-lecture
Hygienics, Medical Microbiology and Health Care: 1 semester-lecture and course
Introduction into Orthodontics: 1 semester lecture
Medical History and Professional Knowledge
Forensic Medicine (including legal aspects)
Pharmacology: 2 semester-lecture- and course
Internal Medicine: 2 semester-lecture
Oral Medicine: 2 semester-lecture
Oral and Maxillofacial Surgery: 2 semester-lecture
Conservative Dentistry (Including: Preventive Dentistry, Cariology, Endodontics, Periodontology, Pediatric Dentistry): 2 semester-lecture
Prosthodontics: 2 semester-lecture
Orthodontics and Dentofacial Orthopedics: 2 semester-lecture

Courses:
Histopathology: 1 semester-course
Clincal Chemistry: 1 semester-course
Radiology and Radiography: 1 semester-course
General Surgery: 1 semester-course
Dermatology: 1 semester-course
Preclinical Restaurative Dentistry: 1 semester-course
Course of Orthodontic and Dento-facial Technique: 1 semester-course

Introductory course of Anaesthesia and Exodontia: 1 semester-course
Practical Course of Oral Surgery: 1 semester-course
Practical Course of Maxillofacial Surgery: 1 semester-course
Clinical Prosthodontics: 2 semester-course
Clinical Course of Conservative Dentistry (Including: Preventive Dentistry, Cariology, Endodontics, Periodontology, Pediatric Dentistry): 2 semester-course
Clinical Course of Prosthetic Dentistry: 2 semester-course
Clinical Course of Orthodontics and Dentofacial Orthopedics: 2 semester-course
Oral Medicine: 4 semester-case presentation including all departements of the Dental School

(Graduation Examination = State Dental Examination)

Visitors Comments

The programme is very intensive and as a result all staff have a major involvement in teaching, service and also research. Non-senior staff are used primarily in teaching. The visitors got the impression that staff are overextended and do not get sufficient time for student interaction and research. Time for personal development programs for staff are limited as a result of the intensive nature of the curriculum.

Section 5:

5.1 Biochemistry and Molecular Biology

Name of course: Biochemistry
Person in School who will explain and show this to the visitors:
Prof. Dr. Maximilian Tropschug
Institut für Biochemie und Molekularbiologie
der Universität Freiburg
Hermann-Herder-Str. 7
D-79104 Freiburg i. Br.

Telefon: 0761 / 2035244

Telefax: 0761 / 2035253

email: tropschu@ruf.uni-freiburg.de

1. Introductory paragraph

We are teaching all aspects of modern Biochemistry to medical and dentist students. We offer both basic biochemistry and molecular biology and recent developments in both fields. Lectures and practical courses are offered.

2. Primary aims

The aims are to teach basic biochemistry like glycolysis, Krebs cycle, respiratory chain, as well as immunology and novel developments like molecular cloning, PCR and gene therapy.

3. Main objectives

To give a sound education in all aspects of Biochemistry.

4. Hours in Curriculum

There are one hour lectures five times a week in the "Wintersemester" and four times a week in the "Sommersemester". This means that lectures are given during one year (two "semesters").
There are 9 practical courses of 8 hours each.

5. Method of Learning/Teaching

Lectures include modern methods like slides, overheads and videos. Learning is controlled by asking questions during the lectures and practical courses.

6. Assessment methods

Progress is controlled by two written exams at the end of the two lecture parts and daily exams during the practical courses. Knowledge is also controlled by oral examinations and a written exam during the 9 practical courses.
7. Strength

The institute is built of young scientists eager to bring their knowledge of biochemistry and molecular biology to the dentist students in order to excite them for these sciences.

8. Weaknesses

Some students don´t care about basic sciences and just want to do dentist work.

9. Innovations and Best Practices

Innovations are added every "Semester" by including new chapters like PCR, gene cloning, heat shock proteins and protein folding helpers as well as explaining diseases resulting from protein misfolding like Scrapie (prion proteins).

10. Plans for future changes

Plans are to include all novel developments in biochemistry and molecular biology into the teaching of dentists students to broaden their minds and knowledge.

Visitors Comments

Due to illness the visitors were unable to meet the person responsible for the course.

5.2 Clinical Chemistry

Person in school who will explain and show this to visitors:
Name: Dr. rer. nat. Heiner Nagursky
e-mail: nagursky@zmk2.ukl.uni-freiburg.de
fax: +49761 270 4900

Course: Physical and clinical laboraty investigations for dental students

1. Introduction
Each course is composed of a one hour lecture and two hours practical experimental work. The lectures include physiology, pathophysiology and clinical aspects of diseases of major interest in dental surgery and demonstrate, how laboratory investigations can offer diagnostic help. Methodical principels of manual and modern automated measurements are presented. Students analyse a part of these parameters in the experimental section of each course. In this way a rational approach to diagnosis, investigation and monitoring of the treatment by laboratory results is provided.Theory and

advices for the practical work are resumed in a booklet which accompanies the course. 'At a glance boxes' in this broschure allow rapid access to information about relevant parameters. They review indication, implication, reference ranges, methode of investigation, preanalytical needs and sample preparation.

2. Primary aims
Aims of the course are the presentation of laboratory investigations in theory and practice which are essential for the daily work of dentists and oral surgeons. The course will help the students to integrate basic science learned in the preclinical studies with the clinical practice and allows them to make a reasonable selection and a sound valuation of the laboratory investigations.

3. Main objectives
The following investigations are done experimentally by the students using samples of their own. They are introduced to methods of collecting patient samples and are, for the first time in their studies, trained in taking intraveneous blood samples.

For this purpose students take serum from each other which is serologicaly screened for hepatitis B in the Department of Immunology. Vaccination is provided due to laboratory results .

3.1 Haematology
- Full blood count including determination of total white and red blood cells, erythrocyte parameters, platelets
- Microscopic examination of stained blood film and differential white cell count haemoglobin, haematocrit, erythrocyte sedimentation rate (ESR)

3.2 Haemostasis
- Bleeding time, prothrombin time, partial thromboplastin time

3.3 Biochemical investigations
- Determination of blood glucose concentration as an example of measuring substrate concentrations in bodyfluids
- Determination of glutamic oxalacetic transaminase, glutamic pyruvic transaminase, gamma-glutamyl transferase, creatinine kinase as an example of serum enzyme concentration analysis

3.4 Immunochemical investigations
- Principles of immunochemical measurements are demonstrated by measuring serum concentration of the acute phase C-reactiv protein.

3.5 Urinanalysis
- Appearance, dipstick analysis, microscopy and cytology

3.6 Intraoral clinical, microbiological and cytological investigations
- Clinical consequences of intolerance to dental materials due to mechanical, toxic or allergic reasons are demonstrated and taught
- Microscopic ananlysis are performed on oral swabs and saliva
- Cannula insertion to major salivary gland ducts to collect single gland saliva and as a prerequisit to sialography is demonstrated on a volunteer student
- electrolyte concentration in saliva is determind by flame-spectroscopy

3.7 Preanalytical sample preparations and diagnostic valuation of the results
- The need of quality controll in performing analysis with diagnostic and therapeutic consequences are discussed and demonstrated

4. Hours in the curriculum
Students participate in the first clinical semester (3rd year). Eleven courses take place over one semester (one day per week, 3 hours equal to 33 hours per semester).

5. Method of learning/teaching
Themes are prepared by a senior lecturer and are presented using slides, overhead projection, video and live demonstrations. During the experimental part of the course students are instructed to use

laboratory analysers, mikroscops and different laboratory devices. At any time during the course students may ask questions or discuss special aspects.

6. Assessment methods
Attendance certificate for each course and end of the semester certification

7. Strengths
Practical aspect and clinical relevance

8. Weakness
At this term no obvious practical relation to patients because students do not yet treat patients

9. Innovations and Best Practices (1-5)

10. Plans for future changes
Introduction of diagnostic tools based on molecular biology (i.e. PCR)

Visitors Comments

This one semester course is delivered intramurally at the Hospital of Dental Medicine. Topics of the course contain laboratory assays which are important and used in clinical dentistry. In addition, it deals with a few other assays, which may help the dentists in their orientation to evaluate the condition of patients. Clinical chemistry is one of the strongest courses of the “preclinical” part of the programme.

5.3 Genetics

No separate subjects of the dental curriculum in Germnay but integrated part of different courses.

Section 6:

6.1 Anatomy

Name: Prof. Dr. Hans-Dieter Hofmann / Dr. H. Flöel
E-mail: hofmannh@uni-freiburg.de
Fax: +49 761 203 5054

Training in anatomy for dental students consists of 3 lectures and 2 courses:

- **Lecture Anatomy I:**

  Objectives: Knowledge in general anatomy, basic developmental biology and special anatomy of the locomotor system
  Curriculum: winter semester; for 1st or 2nd semester students (depending on admission to the University)

  Hours in the curriculum: 75 plus 10 hours demonstrations
  Evaluation: one oral examination (at the beginning of the following semester)

- **Lecture Anatomy II:**

  Objectives: Knowledge in macroscopical and microscopical anatomy, and development of the organ systems
  Curiculum: summer semester; for 2nd or 3rd semester students

Hours in the curriculum: 52

- **Lecture Anatomy III:**

  Objectives: Knowledge of the anatomy of the nervous system and special senses
  Curriculum: summer semester; for 3rd (5th) or 4th semester students
  Hours in the curriculum: 40

- **Dissection course:**

  Objectives: Aquisition of dissection techniques; dissection of the components of the locomotor system (excluding the limbs), blood vessels, nerves, and organs; detailed knowledge of the topographical and functional anatomy of the human body with emphasis on head and neck
  Curriculum: winter semester; for 3rd or 4th semester students
  Hours in the curriculum: 144
  Method of teaching: groups of 6-8 students supervised by a student tutor and/or one member of the teaching staff work as a team to dissect one corpse; accompanied by a voluntary (2 h/week) course in modern imaging techniques
  Evaluation: 4 combined theoretical/practical oral examinations

- **Course in histology and microscopical anatomy:**

  Objectives: Aquisition of microscpical techniques; knowledge in histological techniques; detailed knowledge of the microscopic structure of tissues and organs and of their histological characteristics
  Curriculum: summer semester; for 4th or 5th semester students
  Hours in the curriculum: 60
  Method of teaching: 120 students in one course; video demonstration and practical training (each student on ist own microscope)
  Evaluation: 2 combined theoretical/practical examinations (histology/microscopical anatomy)

Strengths: The anatomical teaching combines lectures which address large groups of students to convey basic knowledge, and courses which allow the students to acquire detailed practical and theoretical competence. Teaching in small groups in the practical courses allows personal communication, intense instructing and close supervision.

Weakness: The lectures and courses are timed according to the curriculum of the medical students. The curriculum of the dental students is not adequately coordinated; medical students are admitted only in the winter semester, dental students in winter and summer. This results in heterogeneous groups of dental students with different timing of their curriculum. In addition, due to the occupancy by technical courses at the dental school most students are not able to regularly attend the lectures. This is a considerable handicap for these students. Moreover, from a didactical point of view it would be desirable that the dental students (like the medical students) are trained in microscopic anatomy before starting the dissection course. Again, this is not possible due to the insufficient coordination of the curricula.

Visitors Comments

Anatomy is delivered by teachers of the medical faculty and is given in 3 lecture-based courses. Medical and dental students are taught together. Entry occurs to the

course in two separate blocks, 40 students in the summer semester and 40 in the winter semester. This causes problems in the curriculum due to different levels of experience. After basic anatomy courses, an oral examination is necessary for admission to the dissection course. Groups of 6-8 students are administered by one teacher. Finally histology and microscopic anatomy is taught in the 4th-5th semester.

Assessment of students' knowledge in the courses is based on theoretical and oral examinations. In the visitors opinion the anatomy course was on traditional lines. Small group dissection course were identified as a strength by the hosts. The curriculum planning and heavy workload in the preclinical laboratories means that lectures are poorly attended by the students. Future innovations include the possibility of the use of modern imaging techniques and seminars. Integration of aspects of the physiology and oral surgery course e.g. in demonstrating local anaesthesia techniques in relationship to actual anatomy could also be adopted in the future.

6.2 Physiology

Name of course: Physiological course with practical exercises
Lecture: Main lecture I and II in Physiology
Person in School who will explain and show this to the visitors:
PD Dr. Jörg-Dieter Weirich
Fax: +49 761 203 5179

Visitors Comments

Physiology like anatomy is a joint course with medicine at lecture level with a substantial and well developed series of practical experiments. 30 experiments of a 5 hour duration occur every other week. Groups of 10 students with a dedicated tutor work according to a simple manual designed by the physiology department. The course is evaluated by a MCQ exam based on 1 question per experiment. The strengths of this course are the small groups, integration with medicine and the basic knowledge delivered. Lectures and experiments are not co-ordinated because of the number of students participating. Student work load and lack of time was identified by the department. Innovative computer based experiments to replace some inadequate video tapes were discussed.

Section 7:

7.1 Pharmacology

Name of course : Pharmacology
Person in School who will explain and show this to the visitors:

Name:

Prof. Dr. Klaus Aktories
or Prof. Dr. Klaus Starke
e-mail: starke@ruf.uni-freiburg.de
fax: 49 761 203 5318

1. The course is taught at the end of the education in dentistry and takes one year.

2. The primary aim is to teach those essentials of pharmacology that are relevant for dental students.

1. No further comments.

2. The course comprises about 24 45-min lectures.

5. Lectures

6. No assessment during the course, but only during the final exam at the end of the education.

7. No particular strengths.

8. A weakness is an occasional lack of focus on what is really relevant for dentistry, and lack of time for the dental students to attend the lectures.

10. No concrete plans, but pharmacology teaching for dental students might be improved. I should perhaps add that pharmacology teaching for medical students is optimal, winning the students the best marks of our country.

Visitors Comments

The Pharmacology course is delivered by the faculty of the Pharmacology Department of the Medical School. Traditional topics were selected because of the reduced number of hours. The most important topics for the dentist (local anaesthetics, analgetics, antipyretics, and antibiotics) are dealt with during the lectures. The course does not contain any practical aspect. No assessment during the two semesters, only the final oral exam. Weaknesses are: the lack of dental orientation of lectures, the low attendance and the low results on the exams. The lack of anatomy and physiology knowledge of the students, when they take the course is a hindrance. For the future the use of a smaller number of teachers and an examination each term could be considered.

7.2 Microbiology

Name of course: Medical Microbiology for Students of Dental Medicine
Person in School who will explain and show this to the visitors:
Dr. med. Klaus Pelz
e-mail: pelz@ukl.uni-freiburg.de
Fax: +49 761 203 6562

1. The course is placed near the end of the education in dentistry.
2. Primary aims: providing the knowledge of the properties of microorganisms, their role in infections-especially odontogenic infections-
3. Structure of microorganisms, taxonomy and identification methods
   Normal flora and some of the important pathogens and the corresponding infections
   Desinfection and sterilization
   Nosocomial infections
   Resistance of microorganisms to chemotherapeutica and test methods
   Host defence and pathogenicity mechanisms of microtorganisms
   Special infections: Periodontitis, odontogenic abscesses, hepatitits, herpes, HIV
4. Duration of the course: Half a year consisting of a two hours lecture once a week and a practical course of about 3 hours (5 times)
5. Lecture and practical training in cultivating, staining of microorganism and microscopy
6. Questions and discussion in the practical course, exam at the end of the education
7. Combination of practical exercise and lecture
8. Weakness: providing basic knowledge in microbiology and at the same time knowledge of special infections with relevance for dentistry (at 5 p.m!)

Visitors Comments

This comprehensive one semester course contains important topics for the students, particularly disinfection, sterilisation and antibiotic use. The Microbiology Department of the Medical School delivers the course. There is no examination of the content of the lectures only from the material and the practicals. Attendance is compulsory and the subject is part of the final examination. The microbiology department participates with the periodontology department in research.

7.3 General Pathology

Name of course: Pathologic-Histological Course for Students of Dental Medicine
Lecture: Special Pathology for Students of Dental Medicine
Person in School who will explain and show this to the visitors:
Prof. Dr. Nikolaus Freudenberg, M.D.
Prof. Dr. Urs Nikolaus Riede, M.D.
Fax: +49 761 203 6769

Aim

Education of students of dentistry in general pathology and oral pathology

Topics

- General pathology
- Selected chapters of clinical pathology, the knowlege of which is important for every physician, like frequent cardiac and vascular diseases as well as metabolic disorders
- Oral pathology main topics in head and neck diseases
- Training of general and oral histopathology with practical and theoretical examination
- Facilities for scientific work, expecially with the aim to prepare a thesis in order to obtain the grade of Dr. med. dent..

Advantages and problems

- Education in pathology is the basis for the study of theoretical and practical medicine, also in the field of dentistry. In Freiburg's Institute of Pathology lectures of general and clinical pathology offer a wide range of macroscopic and microscopic pathology during three semesters
- Education in pathology for students of dentistry is suffering in our university from the unfavourable times for the lectures and courses, which are held at evening and night hours.

Desirable innovations

Establishment of new times for lectures and histopathological course as well as for microscopical training during suitable day-times.

Visitors Comments

Two enthusiastic members of the medical faculty take responsibility for
a) general pathology as a special course tailored for dental students
b) histopathology from a dental approach.
Both courses were strong in relating theory to dental practice. A simple summary textbook is used. Evening lectures are a problem for attendance but the practical sessions involve a good staff/student relationship and a wide experience.
Assessment includes both practical tests and MCQs. A lack of integrated teaching with clinical colleagues is a weakness and could be improved by mutual discussion at regular meetings to co-ordinate approach, teaching methods and curriculum. The visitors would emphasise the special nature of this part of the curriculum and the need for dedicated course material/teaching for dental students.

Section 8:

8.1 General Medicine

Medical University Hospital
Person in School who will explain and show this to the visitors:
Prof. Dr. med. Hans Dieter Kasemir
Prof. Dr. med. Jens Rasenack
Fax: +49 761 270 3245

During an academic year following topics in „internal medicine“ are presented (90 min/weekly):

- Arteriosclerosis and other vessel diseases
- Diseases of liver an bile duct
- Arterial hypertension
- Diseases of the lymphatic system
- Inborn and acquired cardiac defects. Gastrointestinal diseases
- Diseases of the small intestine. Allergies. AIDS
- Gout, rheumatism and autoimmune connective tissue disorders
- Coronary heart disease, cardiac infarction. Lung-diseases
- Emergencies practice. Diabetes mellitus. Malignant tumors
- Cytostatic therapy. Diseases of the hypothalmic-pituitary-adrenal axis
- Tuberculosis. Sarcoidosis. Diseases of granulocytopoesis
- Liver-diseases, hepatitis as occupational disorder
- Diseases of the thyroid gland. Clotting disorders
- Renal diseases

8.2 General Surgery

Person in School who will explain and show this to the visitors:
PD DR. Ulrich Schöffel
schoeffl@chir1.uni-freiburg.de
Fax: +49 761 270 2782
Name of course: Allgemeine Chirurgie –

1. This course tries to give a short overview on diagnosis and treatment of selected surgical diseases. It is traditionally placed early in the curriculum and does not refer to other, more specialized programs.

2. Primary aims are to refresh the knowledge in some biological mechanisms as a basis for the understanding of surgical therapy and to present some selected aspects of general surgery.

3. The course allows the student to acquire some basic insights into the problems of surgical diagnosis and treatment with special emphasis on the following:

- diagnosis and management of surgical infections
- gauging the severity of head injuries
- basics in trauma surgery including the primary management of multiple injuries
- mechanisms and treatment of burn injury
- general aspects of surgical oncology
- surgery of the thyroid gland

Additional importance is layed on some basic pathophysiologic mechanisms which are necessary for the understanding of surgical problems (e.g. wound healing, bone healing, fluid and electrolyte disbalances).

4. The course is held on a semi-annual basis with one one-hour lecture per week.

5.-10. Not applicable

8.3 Anaesthesiology

See Section 13.3.3

8.4 Otorhinolaryngology

Name of course: Lecture of Otorhinolaryngology
Person in School who will explain and show this to the visitors:
Universitätsprofessor Dr. med. Erwin Löhle
e-mail: loehle@hno.ukl.uni-freiburg.de
fax: 0049 – 761 – 270 – 4193

Lecutre: Otorhinolaryngology for Dental Students
(= HNO – Heilkunde für Zahnmediziner)

Introduction:
The lecture in otorhinolaryngology covers aspects of the anatomical and physiological basics of ear, nose, throat, larynx and esophagus.

Primary aims:
Diseases, symptoms and syndromes in the ENT-clinic, the way of diagnosis and their medical or surgical treatment.

Main objectives:
Diseases of the ear
Allergology in the ENT
Diseases of mouth, throat and esophagus
Diseases of nose and sinuses,
Diseases of olfaction and taste
Diseases of larynx
Traumata in the ENT
Principles of Audiology and Phoniatric
Principles of Rehabilitation of voices diseases, speech retardation, rhinophonia

Hours in the curriculum
The lecture runs over one term (semester) on Monday from 17.15 till 18.00 (one hour per week)

Methods of teaching/learning
Themes are prepared by different professors of the ENT-staff and are presented in the lecture hall using slides, transparencies and videos. There ist the possibility to ask questions during or discuss special aspects at the end of the lecture.

Assessment methods
There ist no test after the lecture

Strengths
The anatomical, physiological basics of ENT together with symptoms, diagnostics and therapeutical procedures are presented.

Weakness
The place in the daily students' time schedule is not optimal. The lecture is not visited by all students regularly.

Innovations and Best Practices
Plans for future changes

8.5 Dermatology

Name of course: Dermatology for students of dental medicine
Person in School who will explain and show this to the visitors:

Dr. med. Andrea Pfister-Wartha
Fax: *49761/2706829

1. The course „Dermatology for students of dental medicine“ is given for the 4th and 5th clinical semester.

2. The primary aims are to teach the students the most common skin diseases, particularly those, which include the mucosa of the mouth, and to to show them skin diseases caused by the treatment of the teeth like, for example, contact allergies.

3. The main objectives are: tumors of the skin, psoriasis, acne, infections of the skin, sexually transmitted diseases, autoimmun-diseases, allergies, eccemas.

4. The course takes one hour and a half, once a week.

5. The method of teaching is a lecture.

6. For assessment the students have to answer some questions about all the objectives of the course at the end of the semester.

7. The strength of the course is, that it is a systematic lecture, teaching the main objectives of dermatology, given by 4 different teachers who are specialists for several objectives.

8. The weakness is, that is only a lecture with diapositives as visual aid but without presentation of patients.

9.+10. An improvement for the future would be practical courses in a concentrated time of one or two weeks for small groups (4 or 6 persons) of students.

Visitors Comments 8.1 to 8.5

Senior staff from the medical faculty provide a series of lectures in general medicine, general surgery, otorhinolaryngology and dermatology specifically for dental students. The course in dermatology takes place in the 4th-5th semesters and the other courses in the 7th-10th semesters. The lectures cover a broad field and are of relevance to the practice of dentistry. Some collaboration or integration with specific dental programmes such as oral medicine/oral pathology would further improve the relevance of the programme and also decrease the need for students to attend an extensive series of lectures. There is no specific course in anaesthesiology but key components of the subject are integrated into other courses. There is a major commitment and enthusiasm by the medical faculty in teaching dental students general surgery, otorhinolaryngology and dermatology.

Section 9:

Number: 9.1.

ORTHODONTICS
Name: Prof. Dr. Irmtrud Jonas
e-mail: gremmler@zmk2.ukl.uni-freiburg.de
fax: +49-761-270 4852

1. Introduction

The education in Orthodontics comprises 3 courses, each with a concomitant seminar, and 3 lectures. Students of the 2nd and 3rd course attend a further seminar of case presentation.

Course I: Course of Orthodontic and Dento-facial Technique	6th semester
Course II: Course of Orthodontic Treatment I	7th - 8th semester
Course III: Course of Orthodontic Treatment II	8th - 9th semester

2. Primary Aims

The students should be able to diagnose the severity of malocclusions and assess the degree of treatment. They should be familiar with the procedures used by orthodontists in order to select patients properly for treatment or for referral.

3. Main Objectives

Theoretical instruction:

a) Physiology and pathophysiology of the cranio- and dentofacial growth and development
b) Relationship of function and dysfunction to occlusion and malocclusion respectively
c) Diagnostic methodologies and principles of a proper orthodontic diagnosis
d) Definition of treatment goals and development of a suitable treatment plan including prognosis, retention, and consideration of alternatives
e) Specification of treatment procedure and selection of the biomechanical and functional appliance design, interaction with specialists

Clinical instruction:

f) Knowledge and skill of orthodontic prevention
g) Knowledge and skill of patient examination, assessment and diagnosis and of orthodontic documentation
h) Knowledge of treatment planning
i) Knowledge of fabrication and clinical management of different orthodontic appliances

4. Hours in the curriculum

Numbers of hours students actually spend treating patients per week are 2 hours during Course II and 3 hours during Course III. Course I only comprises clinical exercises of the participants on each other as preparations for future patient examination and treatment.

5. Method of learning(teaching)

Lectures, seminars, video-presentations, practical exercises, case analysis and treatment planning, laboratory work, patient treatment under supervision, case presentations and discussions.

6. Assessment of Methods

In Course II und Course III the students have to prepare several written case presentations including a comprehensive diagnostic assessment and a treatment plan which lists the individual treatment stages together with the planned appliances. In addition, they fabricate three (course II) or two appliances (course III) for their patients. Every step of practical work (theoretical and clinical) is assessed by an instructor. For assessment of the theoretical state of knowledge two written tests (course I) and 3 written tests respectively (course II + III) must be passed during the semester.

7. Strengths

Clinical instruction includes treatment of patients;
Theoretical instruction is directly transferred into clinical practice.

8. Weaknesses

No comprehensive orthodontic treatment by the students;
Shortage of patients with uncomplicated problems;
Instruction is partially performed by dentists in postgraduate orthodontic education;
Considerable rotation within the academic staff due to the type of contract.

9. Innovations and Best Practices

Emphasis on orthodontic prevention.

10. Plans for future changes

Development of programs for problem-based learning;
Evaluation of teachers and methods and of teaching/learning will be introduced in 1999.

Visitors Comments

The courses in orthodontics are comprehensive and of a high standard. They fulfill the primary aims which have been set for diagnostic skills and assessment of treatment in orthodontics. There is an emphasis on the ability to produce removable appliances and an understanding of fixed appliances but no requirement to use the latter techniques. There is a increased tendency towards preventive orthodontics. There are no plans to develop formal links with paediatric dentistry. Like in many other dental schools it is difficult to obtain patients needing simple orthodontic care for teaching undergraduates. The course is generally regarded as an innovative one as compared to other schools in Germany.

9.2 Paediatric Dentistry

Paediatric Dentistry (integrated subject of Conservative Dentistry)
Name: PD Dr. Andrej Kielbassa
e-mail: kielbass@zmk2.ukl.uni-freiburg.de
fax: + 49 7 61 2 70 - 47 62

1. Course and timing in the curriculum

A 2nd Clinical semester: theoretical lecture on Paediatric Dentistry, attendance as guest student while treatment of children is performed by a dentist.
Separate examination by work written under supervision

B 4th clinical semester: theoretical discussion in small groups, attendance as guest student while treatment of children is performed by a dentist, practical exercises with manikin heads (e.g. stainless steel crowns), assisted practising and treating children (aged 3 - 12 years). Examination as part of Conservative Dentistry.

2. Primary Aim

To teach/to learn the basics of treating children.

3. Main objectives

Tooth development, restorative dentistry, endodontics, anaesthesia, premedication, sedation, patient supervising, prosthetic dentistry in children.

4. Hours in the curriculum

A 2nd clinical semester: lecture 1 hour per week (14 weeks per semester), 16 hours per semester attendance while treating children.

B 4th clinical semester: 12 hours per semester assisted treating of children. 3 hours discussion of treatment modalities, 16 hours per semester attendance while treating children.

5. Method of learning/teaching

Lecture, Hands-on-course, practical treating while being instructed

6. Assessment methods

Written and verbal examination

5. Strengths

Students are treating children in small groups, being instructed by post-graduate staff members. Clinically orientated diagnosing and treating according to the problems arising from the clinical situation.

8. Weakness

To small “quantities” of children being able to be treated by students. Most of the children attending the clinic are handicapped or non-willing children.

9. Innovations

In this part of education basic treatment regimens are to be taught.

10. Plans for future changes

To recruit more children being able to be treated by students.

Visitors Comments

The course in paediatric dentistry is relatively new and was introduced as a requirement following the reunion of Germany. Small group teaching has worked well for the discipline. However, as stated by the school staff, it is difficult to obtain an adequate supply of suitable patients aged 3 to 12 years and as a result treatment opportunities are limited. Training in sedation is not required and is generally not practiced in Germany. Links with the orthodontic department are limited and the course is essentially part of conservative dentistry. It appears to operate successfully in this context.

Section 10: Public Oral Health and Preventive Dentistry

Not separate subjects of the dental curriculum in Germnay but integrated part of different courses.

Visitors Comments

Public oral health and prevention are not required as separate subjects in the curriculum in Germany. As a result teaching in both areas is incorporated primarily into conservative dentistry. It appears that teaching in these areas is related to dental caries and the impact of this disease on the population. Therefore prevention of dental caries appears to receive full attention in the course in conservative dentistry. Exposure to broader aspects of epidemiology, statistics and health

services research and the public health importance of oral disease in a defined course would be helpful to the students.

Section 11: Restorative Dentistry:

Introduction

In Germany in almost all dental schools Conservative Dentistry comprises the subjects Operative Dentistry, Endodontology, Paediatric Dentistry and Periodontology. Prosthodontics and Orthodontics are separate basic subjects with a separate curriculum and timing, respectively. The four subdisciplines belonging to Conservative Dentistry are taught during 3 semesters (half years) namely the 6th, 7th and 9th semester. They are integral parts of the clinical courses but have their own lectures. At the end of the above mentioned semesters the examinations for the 4 disciplines are parts of one certificate. For a more concise information, the curricula concerning the 4 disciplines are exposed separately.

11.1. Conservative Dentistry

Conservative Dentistry (Basic subject = Operative Dentistry)
Name: Prof. Dr. Elmar Hellwig
e-mail: hellwig@zmk2.ukl.uni-freiburg.de
fax: + 49 7 61 2 70 - 47 62

1. Introduction

Conservative Dentistry comprises 3 courses including the respective lectures and seminars.

A	Phantom Course of Conservative Dentistry	6th semester
B	Clinical Course of Conservative Dentistry I	7th semester
C	Clinical Course of Conservative Dentistry II	9th semester

1. Primary Aims

The students should be able to diagnose and treat caries preventively or invasively according to its different symptoms.

4. Main objectives

A Anatomy and function of different tooth hard tissues
B Pathobiology of caries
C Caries preventive strategies
D Diagnosis of different caries symptoms
E Minimally invasive therapy
F Adhesive dentistry
G Conventional restorations (amalgam- and gold-cast restorations)
H Maintenance of restorations
I Cosmetic dentistry (bleaching, veneers)
J Prevention and invasive treatment of non-caries defects

5. Hours in the curriculum

A student spends 17 hours per week (14 weeks per semester) for learning Conservative Dentistry (see enclosed schedule). This time comprises practical and theoretical instruction in Operative Dentistry, Endodontology, Paediatric Dentistry and Periodontology. Since the clinical course I runs in the morning and the clinical course II runs in the afternoon, the students of course I additionally must assist their colleagues of course II and vice versa.

5. The following methods of teaching/learning are applied

The dental education is focused upon practical work, i.e. treatment of patients under strict supervision of an instructor. However, the practical courses are accompanied by lectures and seminars. Additionally the students must report on special treatment problems and cases once a week during a 1 hour session included in the respective course.

The lectures for the Phantom course are accompanied by additional practical demonstrations.

6. Assessment methods

Assessment of practical work

Every single treatment step is assessed by an instructor. The students get scores according to the distinct scoring system set up by health insurances for the dentist in private office. A minimum score and a minimum number of restorations is required to pass the course. If the student does not achieve these standards he must attend the course once again.

Additionally written tests must be passed at the end of the respective course.

9. Strengths

The students are focused upon treatment of patients similar to a dentist in a private office. The patients are protected against wrong or inadequate treatment by the students. Theoretical and practical teaching goes parallel and new knowledge and technologies can easily be transferred into practice.

The system allows for close dialogue between instructor, student and patient.

9. Weakness

The students are burdened heavily. There is almost no time left for a discussion between their professor, who is responsible for the respective course and the students. Students can hardly participate in other activities, i.e. sports, literature etc.

10. Innovations and Best Practices

Minimally invasive techniques, separate “preventive course”, score system

11. Plans for future changes

The lectures will be changed into seminars where students will prepare some lessons themselves.
Periodontology will be more integrated to the courses of Conservative Dentistry.
Preventive treatment (e.g. caries monitoring) will be extended at the expense of invasive treatment.
Evaluation of teachers and methods of teaching/learning will be introduced in the year 1999.

Visitors Comments

The staff members of Conservative Dentistry and Endodontics, who we met with, presented clear objectives, requirements processed in the courses and an enthusiasm for innovative changes of the education. The courses are well planned with continuity in the use of materials, equipment and techniques, from the phantom courses to the clinical courses. An emphasis towards preventive strategies and on contemporary material and techniques is evident. The close dialogue between the students and instructors is a well-founded strength of the education. However, similar to some other

courses, the time for the meetings between the students and the course-leaders/professors is too limited.

In the plans for future changes the staff describes several innovations that exhibit disciplinary positive commitments. Moreover, the ideas reflect the staff's awareness on innovative educational issues on for example how education can be changed to activate students and to stimulate students learning. The idea to ask the students to prepare some lessons themselves is a rationale and forceful way to empower students. The increased integration of periodontology and conservative dentistry will mimic the students' future professional context and accords with the concept on contextual learning. Such integration will facilitate an improved implementation of preventive dentistry and be a model for future changes of the whole undergraduate curriculum.

11.2 Endodontics

Endodontology (integrated subject of Conservative Dentistry)
Name: Prof. Dr. Elmar Hellwig
e-mail: hellwig@zmk2.ukl.uni-freiburg.de
fax: + 49 7 61 2 70 - 47 62

1. Endodontology is an integral part of

A	Phantom Course of Conservative Dentistry	6th semester
B	Clinical Course of Conservative Dentistry I	7th semester
C	Clinical Course of Conservative Dentistry II	9th semester

2. Primary Aims

The students should be able to diagnose and treat reversible and irreversible pulpitis, pulp necrosis and periapical inflammation. The students should know how to solve distinct endodontic problems.

3. Main objectives

A Anatomy of root canal, pulp, periapical regions
B Pathobiology of the pulp and the periapical region
C Diagnosis of endodontic diseases
D Direct and indirect pulp capping
E Root canal treatment procedures
F Root canal filling procedures
G Failures of endodontic therapy
H Endodontic emergency treatment
I Post-endodontic treatment (e.g. restoration of the endodontically treated tooth)
J Surgical intervention (e.g. periapical surgery)

4. Hours in the curriculum

Since endodontology is an integral part of the courses of conservative dentistry the exact timing for treatment of patients with endodontic problems can not be given exactly.
There is a special "Endodontology Day" in the 6th semester where the students perform endodontic treatment in the phantom course for 3 hours per week (14 weeks per semester). This "special course" is accompanied by a lecture lasting 1 hour per week.
Before the respective clinical course, the students again must perform intracanal treatment procedures and root canal filling in each 5 root canals of extracted teeth before they can start treating patients endodontically. In Course II a retreatment procedure must be performed in 1 extracted tooth. During the 2nd Clinical Course of Conservative Dentistry a special "case report" seminar is given, which lasts 1 hour per week (14 weeks per semester).

5. The methods of teaching/learning are the same as already explained for Conservative Dentistry (Basic Course).

6. Assessment methods

The assessment methods are the same already mentioned for conservative dentistry (basic subject/operative dentistry). The students must treat at least 4 root canals (1 single rooted and 1 multi rooted tooth).

7. Strength

See conservative dentistry (basic subject/operative dentistry)

8. Weakness

See conservative dentistry (basic subject/operative dentistry)

9. Innovations and Best Practices

"Case report" seminar
The separation of a particular "Endo-day" from the Phantom Course allows a more detailed and distinct focus on endodontic treatment procedures.

9. Plans for future changes

Introduction of new root canal treatment procedures and root canal filling methods.

11.3. Prosthodontics

Education in prosthetic dentistry consists of a preclinical (3 courses) and a clinical part (2 courses).

11.3.1. Preclinical student education in dentistry

Name: Dr. Jens C. Türp
e-mail: tuerp@zmk2.ukl.uni-freiburg.de fax: + 49 761 270 4906

1. Introduction

The preclinical student education in dentistry consists of 3 courses, which include lectures, seminars, and practical demonstrations.

A	Introductory Course of Clinical and Lab Procedures	1st or 2nd semester
B	Preclinical Phantom Course I	1st or 2nd semester
C	Preclinical Phantom Course II	3rd, 4th, or 5th semester

2. Primary aims

The 3 courses are designed to train students to perform and perfect the technical and manual skills of prosthetic dentistry and to acquire the theoretical background required for the ensuing clinical courses in prosthodontics.

3. Main objectives

1. Knowledge about the anatomy and function of the stomatognathic system.
2. Fundamentals of prosthodontics and dental materials.
3. Proper use of various dental materials.
4. Principles of design and construction of prosthetic restorations.
5. Development of the basic psychomotor skills used in clinical dentistry (e.g., skills needed to prepare teeth in a patient's mouth).
6. Basic experiences in instrument application (rotary and hand), waxing technique, dental material manipulation, and the „lost wax" casting technique.
7. Practical construction of typical restorations (e.g., crowns, bridges, full denture, removable partial denture, stabilization splint).

4. Hours in the Curriculum

During the courses, students spend 36 hours per week in the preclinical lab.

5. Methods of learning/teaching

Preclinical education is equally focused upon practical work and the acquisition of theoretical knowledge. The courses are delivered in a laboratory environment and supplemented with lectures and audiovisual aids. Simulation (using manikins and models) chairside and table instruction, and television and slide demonstration are teaching strategies used to stress the clinical relevance of the preclinical prosthodontic instruction. The practical exercises are explained in detail in a manual. A weekly required lecture on dental materials is offered. To deepen the theoretical knowledge, students are encouraged to read selected material from required textbooks

6. Assessment methods

Assessment of the practical skills

Each step of the practical exercises is assessed by an instructor. After delivery, each piece is rated according to a 5-grade system („1" = excellent; „5" = failed). If the student does not achieve the course goal, he/she must attend the course again.

Assessment of the theoretical knowledge

In the first course, students are subjected to 3 written tests (mainly multiple-choice type of questions) and 1 oral examination (identification of teeth). In the second and third course, four tests (mainly multiple-choice type of questions) are written. The first three tests (or, in the case of the first course, the first 2 tests and the oral examination) take place during the course to ensure that students continue to actively acquire the theoretical background of the practical part throughout the course. In each of these tests, a five questions have to be answered. The final tests comprises 21 questions. Of a maximum score of 36, students have to reach a score of 22 to pass. If the score lies between 16 and 21, students are submitted to an oral examination. If the score is lower than 16, the theoretical part only has to be repeated the following semester under the condition that the student has successfully completed the practical part.

7. Strengths

The daily course hours are from 08.00 a.m. to 05.00 p.m., which enables students to focus exclusively on their work. The clinical situation is simulated closely (e.g., by the use of manikins). Step-by-step demonstrations are given by course instructors and dental technicians. Whenever a new dental material is introduced, an accompanying seminar is offered (Prof. Dr. Kappert). Students are given exact reading assignments.

8. Weaknesses

At the moment, the simulation of the clinical environment is not optimal. For example, preparation of teeth in the manikin takes place without water. Due to the great amount of theoretical knowledge that students have to acquire, leisure activities are certainly somewhat restricted during these full-day courses.

9. Innovations and best practices /

10. Plans for future changes

Reconstruction of the preclinical lab with completely new equipment is scheduled for the year 2000. This will ensure an even better preparation of the students for their clinical work.

11.3.2. Clinical education in Prosthetic Dentistry

Name: Prof. Dr. J. R. Strub
e-mail: weber@zmk2.ukl.uni-freiburg.de
fax: + 49 7 61 2 70 - 4925

1. Introduction

Clinical education in prosthetic dentistry comprises 3 courses:

(a) Clinical Course I of Prosthetic Dentistry (including an 1-week clinical Phantom Course in Prosthetic Dentistry before the begin of the semester) semester 8^{th}
(Course director: Dr. F. Butz)

(b) Clinical Course II of Prosthetic Dentistry
semester 10^{th}
(Course director: Dr. S. M. Beschnidt)

2. Primary Aim

The student should be able to treat patient cases with fixed, removable, or combined dentures.

3. Main objectives

1. Proficiency in patient treatment
2. Restorative, periodontal, and functional pretreatment
3. Treatment of a patient with a fixed or removable prosthesis according to the treatment plan
4. Dental technical procedures
5. Recall of treated cases
6. Assistant clinical service in prosthodontics emergency room
7. Case presentation

4. Hours in the curriculum

Clinical Phantom Course is prerequisite for attendance in Clinical Course I. It takes place one week before the semester starts. A student spends 17 hours per week (14 weeks per semester) in clinical course I and II, respectively. This time comprises practical and theoretical instruction.

5. Method of learning/teaching

Education is focused upon practical work, i.e., treatment of patients under strict supervision of an instructor. The practical courses are accompanied by lectures and seminars. Additionally, the students must report on special treatment problems and cases once a week during a 1 hour session.

6. Assessment methods

Every single treatment step is assessed by an instructor. The students get signatures for every important treatment step.

Additionally, a multiple-choice test must be passed.

7. Strengths

The students are focused upon treatment of patients according to a controlled treatment plan. The patients are protected against wrong or inadequate treatment by students. Theoretical and practical teaching goes parallel, and new knowledge and technologies can easily be transferred into practice.

8. Weakness

Treatment plans sometimes differ extremely depending upon the clinical situation of the patient.

9. Innovations

Students participate in clinical studies by treating patients with new materials, i.e., all-ceramic crowns.

10. Plans for future changes

In the near future, we try to introduce implant-born restorations in student education.

Visitors Comments

The course is along traditional lines using high quality materials and techniques with good co-ordination between the "phantom" head course and clinical practice.

The quantity of training provided and work carried out is high but results in pressure on the students' time and very long working days. There is good use of senior and junior students working in pairs on the clinic and acting as DSA's in close support. The facilities, chairs units etc. are modern and very well maintained creating an excellent environment. As with many dental schools there is some evidence of a shortage of patients and variety of clinical material, particularly in prosthetics. The course was, to a degree, technique and task orientated with little evidence of an integrated whole patient philosophy.

Consideration could be given to the reduction in the workload for students, more problem oriented OSCE type learning in class rooms and clinics and possible use of part-time teachers on the clinics.

There is no doubt that the graduate dentists from Freiburg are technically competent in restorative skills but problem-solving skills may need to be addressed in a more formal manner. The introduction of OSCE (Objective Structured Clinical Evaluation) might be an appropriate mode to assess the students' different skills.

11.4. Research Centre of Experimental Dentistry

Name of the course: Dental Materials
Name: Prof. Dr. H. F. Kappert
e-mail: kappert@zmk2.ukl.uni-freiburg.de
Fax: +49 761 270 4823

1. The course and its timing in the curriculum

Main lecture on the basics of dental materials within the pre-clinical curriculum

Supplementary lectures and seminars on pre-clinical courses on dental materials and their application

Supplementary lectures to clinical courses on dental materials, their biocompatibility and application

2. Primary Aims

An introduction to the general properties of dental materials
- testing and measuring these properties

3. Main objectives

Mechanical, optical, thermal and electrical properties of dental materials,
nature of metals and alloys;
principals of manufacturing metallic restorations as:
casting, heat treatments, soldering and welding;

mechanical properties and strength of dental ceramics and their chemical composition;

modern techniques to manufacture metal ceramic and full ceramic restorations;

mechanics, chemistry and manufactoring of dental resins;

CAD/CAM techniques;

mechanical and chemical properties of cements and their clinical application;

direct aesthetic restorative materials;

properties and application of impression materials, gipsum products, dental waxes and investment materials;

corrosion, solubility of dental materials and biocompatibility problems.

4. Hours in the Curriculum

Main lecture	two hours/week
Pre-clinical lecture	one hour/week
Clinical	block of three lectures/clinical course in prosthodontics

5. Method of learning/teaching

The lecture is supported by slides and transparencies

6. Assessment methods

Multiple choice test

7. Strengths

Theoretical knowledge and experience in research and testing of most modern dental materials

8. Weaknesses

Lack of experimental demonstration

9. Innovations and Best Practices

The content of the lecture is continiously adjusted to modern developments

10. Plans for future changes

Support of the lectures by video tapes on testing and measuring

Section 12: Periodontology (Integrated subject of Conservative Dentistry)

Name: Dr. Christian Mall
e-mail: mall@zmk2.ukl.uni-freiburg.de
fax: + 49 7 61 2 70 - 47 62

1. Introduction

Periodontology comprises 3 courses including the respective lectures and seminars.

A	Phantom Course of Periodontology	1th clinical semester
B	Clinical Course of Periodontology I	2nd clinical semester
C	Clinical Course of Periodontology II	4th clinical semester

2. Primary Aims

The students should be able to diagnose the different periodontal diseases and should also be able to treat preventively or invasively (deep scaling and root planing) according to its different symptoms.

3. Main objectives

A Anatomy and physiology function of the periodontal structures
B Periodontal pathology (etiology and pathogenensis)
C Periodontology and general diseases
D Epidemiology
E Diagnostics
(classical and chair-side diagnostics, clinical and bacteriological methods)
F Preventive measurements
G Therapy of gingival diseases (inflammation hyperplasia a.o.)
(scaling, root planing and surgery)

Periodontal therapy (conservative i.e., professional plaque control, occlusal adjustment, splinting, planning of periosurgery and supporting measurements (antimicrobial chemotherapy)
K Assistance in plastic, mucogingival and preprosthetic surgery and knowledge in treatment
L Diagnoses and therapy of periimplantitis
M Recall

4. Hours in the curriculum

A student of course I (2nd clinical semester) spends one half day per week (14 weeks per semester) for learning periodontology (see enclosed schedule). This time comprises practical and theoretical instruction.
A student of course II (4th clinical semester) spends about one complete week per semester for attendance while treating patients with periodontal diseases.

5. Method of learning/teaching

Lecture, Hands-on-course, practical treating while being instructed. Additionally the students must report on special treatment problems and cases once a week during a 1 hour session included in the respective course.
The lectures for the Phantom course are accompanied by additional practical demonstrations.

6. Assessment methods

Verbal examination at the end of the semester for students of course I

7. Strengths

Students are treating patients with periodontal diseases, being also instructed by post-graduate staff members. Clinically orientated diagnozing and treating according to the problems arizing from the clinical situation.

8. Weakness

See conservative dentistry (basic subject/operative dentistry)

9. Plans for future changes

The lectures will be changed into seminars where students will prepare some lessons themselves.
Periodontology will be more integrated to the courses of Conservative Dentistry.
Preventive treatment will be extended at the expense of invasive surgical treatment.

Visitors Comments

The periodontology course has recently been integrated as a part of conservative dentistry (it was previously linked to oral surgery). Three courses take place between 1st clinical and 4th clinical semester and involve theory and practical sessions. Use of models and animal tissue provide the pre-clinical skill training experience. A range of treatments are practised. Students are assessed in an oral exam at the end of the first clinical course.
A young and enthusiastic staff assist in the understanding of perio-issues but the students have a heavy workload and little time for discussion and reflection. Planned

innovations include more use of seminars and emphasis in preventive treatment. The visitors considered that recognition of the place of periodontics in a “whole patient” treatment philosophy should be emphasised.

Section 13:

13.1 Oral Surgery

Section 13.1 and Section 14.1: Oral and Maxillofacial Surgery - Oral Medicine

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

Name: PD Dr. Dr. G. Lauer
e-mail: lauer@zmk2.ukl.uni-freiburg.de
Fax: +49761/2704900

The Department of Oral and Maxillofacial Surgery is located within the Hospital of Dental medicine. The Staff of the Department teaches Oral medicine and Oral and Maxillofacial Surgery. The following lectures and courses are offered:

- Oral medicine (lecture)
- Oral and maxillofacial surgery (lecture)
- Introductory course in Anaesthesia and exodontia
- Oral Surgery Course - Operation Course 1
- Maxillofacial Course - Operation Course 2
- Case presentations in Oral and maxillofacial Surgery (course)

Lectures are voluntary and can be visited by students during the clinical part of their dental education. The offered courses are based on eachother and are compulsary for students to get the end of semester certificate each.
Teaching of Oral Maxillofacial Surgery includes regional anaesthesia as general anaesthesia is not included in the dental training. The subjects of OMF & Oral Medicine lectures are divided up in different aspects. To experience the practical side there are three consecutive courses - anesthesia and exodontia, operation course I and operation course II. These practical courses are taken during the 3rd to the 5th year (6th, 7th and 9th semester).

1. Lecture: Oral Maxillofacial Surgery - Spezielle Mund-, Kiefer- und Gesichtschirurgie

1.1 Introduction

The lecture in Oral and Maxillofacial Surgery covers all aspects ranging from dentoalveolar surgery to major maxillofacial surgery that is performed in the clinic during inpatient treatment.

1.2 Primary aims

- Diseases, trauma, symptoms and syndromes in the OMF region and their treatment.
- Limitations of outpatient surgical treatment.

1.3 Main objectives

- Dentoalveolar surgerydental office – basics of surgery - basics of wound and bone healing
- Relevant pharmacotherapy (Antibiotics, Analgesics)
- Local anaesthesia
- Dentoalveolar surgery – tooth extraction – apicectomy – impacted teeth – dental implants
- Biomaterials
- Preprosthetic surgery and sinuslift
- Treatment and rehabilitation of tumor patients
- Microsurgical tissue transfer
- Diagnostic procedures and surgery and physiotherapy of the temporo-mandibular joint
- Diagnostic procedures and treatment of fractures
- Fratures of teeth

Fractures of the mandible and the maxilla resp. midface
Soft tissue and nerve injuries
Cleft Lip, cleft palate
Orthognathic surgery
Surgery and diagnostic of salivary glands
Diagnostic and surgery of the maxillary sinus

1.4 Hours in the curriculum
The lecture runs over two terms (semesters) on Wednesday and Thursday from 7.45 till 8.30 am (2 hours per week equal to 25 hours per semester).

1.5 Method of teaching / learning
Themes are prepared by senior lectureres and are presented in the lecture hall using slides or transparencies. There is the possibility to ask questions during or discuss special aspects at the end of the lecture.

1.6 Assessment methods
Topics of the lectures are part of a written test, which is compulsary to take and pass for the operation course I and II, as well as part of the Final Dental Examination in Oral surgery and Maxillofacial surgery.

1.7 Strengths
A wide range of themes are covered. New developments are presented.

1.8 Weakness
Not enough time in the curriculum. The lecture is not visited by students very well. Medical problems fall short.

1.9 Innovations and best practices

1.10 Plans for future change
Video demonstration, Interactive procedures, to indroduce in the preclinical setting clinical aspects e.g. anatomy

2. Lectures Oral Medicine - Zahn-, Mund- und Kieferkrankheiten

2.1 Introduction
The lecture in Oral medicine (ZMK) is voluntary for the students and is held by the senior staff of the Department of Oral and Maxillofacial Surgery.

2.2 Primary Aims
Diseases in the oral cavity and head and neck region.
Medical diseases with indispensible and optional oral manifestations.

2.3 Main objectives
Bacterial infections - pathogens and antibiotics
Woundhealing
Diseases of the maxillary sinus
Bone pathology Osteomyelitis
Cysts
Abscesses of the mandible and of the maxilla
Infection prophylaxis, hygiene, desinfection, HIV, Hepatitis B and C
Leukoplakia-diseases of the oral mucosa
Epithelial tumors
Mesenchymal tumors
Bone tumors Odontogenic tumors
Disorders of the Temporo mandibular Joint
Pain, neuralgia and analgetic therapy
Allergic reactions on dental material

Salivary gland diseases
Craniofacial Dysmorphogenesis (Fehlbildungen)
Cleft lip, cleft palate
Dental focus
Compromised patients with medical risk factors, coagulation disorders

2.4 Hours in the curriculum
The lecture is held over two terms on Monday and Tuesday from 7.45 till 8.30 am ,2 hrs per week (50 hrs totally), and is usually offered for 4th year dental students (7^{th} and 8^{th} semester), but according to the timetable it can be visited during the whole dental training scheme.

2.5 Method of teaching / learning
Themes are prepared by different lecturers and presented using slides or overhead foils. There is the possibility to discuss topics during or at the end of the lecture.

2.6 Assessment methods
Topics of the lectures are part of the written test in the operation course 1 and 2. In the Final Dental Examination oral medicine is a principal subject. There are groups of approx. 4 students that take the exam at one examiner.

2.7 Strengths
A wide range of themes are covered. Different lectureres give a more colourful picture of the subjects, new developments are presented.

2.8 Weakness
The lecture is not visited very well by students, because other practical courses, i.e. dental surgery or prosthodontics are offered before and after the lecture and exact timing is not always possible with patient treatment. There are different examines - which might have different emphasis in the subjects.

2.9 Innovations and best practices

2.10 Plans for future change
Video presentation

3. Courses

3.1 Introduction
The knowledge in Oral Surgery, Maxillofacial surgery and in Oral Medicine taught in the lectures is consolidated in the three consecutive practical courses (A-C) and an additional
Case presentation Cours (D). The first three courses are based found on eachother: and:

A Introductory Course (anaesthesia and exodontia)
B Operation Course I, Oral Surgery
C Operation Course II, Maxillofacial Surgery
D Case Presentation in Oral and Maxillofacial Surgery

In the following Introductory Course, OP 1,2 are therefore listed together below.

3.2 Primary Aims
The primary aims of the four courses are the following:

A Introductory Course anaesthesia and exodontia (An und Ex Kurs)

- Basic surgical knowledge and techniques
- Local anaesthesia

B Operation Course I Oral Surgery (OP 1 Kurs)

- Assessment and treatment of patients in the outpatient setting
- Diseases of the mouth and their treatment.
- Dentoalveolar surgery and exodontia.

C Operation Course II Maxillofacial Surgery (OP 2 Kurs)

- Inpatient treatment e.g. surgical treatment of severe tooth related, maxillofacial diseases, tumors and trauma.
- Major Oral- and Maxillofacial surgery.

3.3 Main objectives:

A Introductory Course Anaesthesia and Exodontia (An und Ex Kurs)

History taking
Theoretical background and practical experience of surgical techniques in a non-patient setting
Local anaesthesia
Techniques of dentoalveolar surgery demonstrated at animal cadavers
Treatment of general /medical emergencies in the dental office

B Operation Course 1-Oral Surgery (OP 1 Kurs)

Taking patients history
Extraoral and intraoral examination
Setting up a treatment plan for different patients
Extractions of teeth
Assistance at the surgical removal of teeth
Working under sterile conditions
Learn about and to see complications

C Operation Course 2 Maxillofacial Surgery (OP 2 Kurs)

History taking especially related to risk factors e.g. general medical problems
Performing extraoral and intraoral examinations
Taking part in the patient treatment on the wards
Assistance in maxillofacial operations e.g. in tumor, trauma and orthognathic surgery
Emergency dental surgery: trauma, dental infections, abscess and surgical and medical treatment under inpatient conditions
Assess postoperative woundhealing

3.4 Hours in the curriculum:

Within the curriculum of dental medicine the three courses are consecutive and based on each other.

A Introductory Course Anaesthesia and Exodontia (An und Ex Kurs) ***(3rd year 6th semester)***
The introductory course is offered in the 1st semester of the clinical training, along with the introductory course in operartive dentistry. The course consists of a practical part (approx. 2 hrs per week, total 20 hrs) and a theoretical part (lecture with 2 hrs per week, total 20 hrs). The lecture is held on Monday and Thursday 11.00 – 12.00 am, the practical part Thursday resp. Wednesday afternoon from 2-4 pm.

B Operation Course 1 Oral Surgery (OP 1 Kurs) (4th year 7th semester)
The course is within the second semester of the clinical dental training, at the same time students start to treat patients in the first course in operative dentistry. It is a full time course for 2.5 weeks and during this time the students do not take part in the course of operative dentistry. From one term (approx. 30- 40 students) 3 - 5 students spent 2.5 weeks in the outpatient clinic resp. accident and emergency rooms of the Department of Oral- and Maxillofacial Surgery (approx. 100 hrs). Parallel to the practical course a 1 hr seminar that covers special themes of oral surgery is offered on Thursday 5-6 pm (total number of 12 sessions) and is held by students under supervision.

C Operation Course 2 Maxillofacial Surgery (OP 2 Kurs) (final year 9th semester)
The course is taken in the 9th semester of dental medical training, so students are in their final year of their dental education. The course is within the fourth semester of the clinical dental training and lasts 3 weeks (120 hrs). At the same time students take part in the second course of operative dentistry. During the block course 3-5 students (of approx. 30- 40 students per term) spend all day either in the theatre or on the wards. There is no patient treatment in the course of operative dentistry.

3.5 Method of learning / teaching:

A Introductory Course Anaesthesia and Exodontia (An und Ex Kurs) ***(3rd year 6th semester)***

In the lecture the theoretical background for the practical part of the course is taught. The lecture covers taking patients history, intraoral and extraoral examination, premedication, local anaesthesia, incidents during local anaesthesia resp. dental treatment and extraction of teeth.
The practical part is divided in: under supervision students apply mutually local anaesthesia as well as they prepare i.v. infusion, take peripherial venous blood and blood pressure. In practical exercises under supervision on phantoms and on animal cadavers students practise basic surgical techniques like incisions, operative removal of impacted teeth and apicectomies.

B Operation Course 1 Oral Surgery (OP 1 Kurs) (3rd year 7th semester)
Students apply their theoretical knowledge, which they have gained in the introductory course. They spend most of the time in the outpatient clinic. At chairside students take patients history, perform intra and extraoral examinations and simple oral surgical procedures like exodontia. Students are under supervision of a doctor each on a one to one basis. They assist in operations like removal of impacted teeth and assist acute dental surgical treatment like dental trauma and incision of abcesses. They repeat basic surgical techniques like suturing patients wounds. Within the dental training students have patient contact for the first time.

C Operation Course 2 Maxillofacial Surgery (OP 2 Kurs) (final year 9th semester)
On the ward bedside teaching under supervision of the doctor in charge is offered and students are involved in the daily workload (taking patients' history, taking blood, i.v. infusions, changing dressing). In the theatre of the Department of Oral- and Maxillofacial Surgery students assist hard and soft tissue maxillofacial operations. In the accident and emergency room of the Department students perform acute dental procedures e.g. pulpitis treatment (trepanation), local abscess incision and minor dental and soft tissue trauma.

3.6 Assessment methods:
A Introductory Course Anaesthesia and Exodontia (An und Ex Kurs) (3rd year 6th semester***)***
Attendance certificate for the special tasks at each course day, oral exam at the end of the course, end of semester certificate (Schein).

B Operation Course 1 Oral Surgery (OP 1 Kurs) (3rd year 7th semester)
Attendance certificate for the special tasks to document i.e. tooth extractions, operative assistance and attendance at seminars. At the end of the semester there is a multipe choice written test examination for all students of this course term. End of semester certificate (Schein)

C Operation Course 2 Maxillofacial Surgery (OP 2 Kurs) (final year 9th semester)
Attendance certificate for the special tasks to document assisting operations (operation report) and ward duties (patient's history, i.v.-infusions, changing dressing).
Written test at the end of the semester. End of semester certificate (Schein)

3.7 Strengths
A. Introductory Course (An und Ex Kurs) (3rd year 6th semester***)***
Theoretical and practical (phantom) introduction to basic surgical skills

B Operation Course 1 Oral Surgery (OP 1 Kurs) (3rd year 7th semester)
Chairside teaching on a one to one basis. Getting an overview of the whole range of dental and oral- and maxillofacial surgical procedures. Learning to see the patient as a whole person and experience medical conditions that are not otherwise taught.

C Operation Course 2 Maxillofacial Surgery (OP 2 Kurs) (final year) (9th semester)
Bedside teaching on a one to one basis. Practicing and assisting the whole range of dental and oral- and maxillofacial cases.

3.8 Weaknesses
A. Introductory Anesthesia and Exodontia. (An und Ex Kurs)

B Operation Course 1 Oral Surgery (OP 1 Kurs)
There are not enough patients that are suitable for student treatment.

C Operation Course 2 Maxillofacial Surgery (OP 2 Kurs)

Medical, surgical topics can not presented sufficiently.

3.9 Innovations and best practices
Models for dentoalveolar surgey, animal mucosa model, implantalogy models

3.10 Plans for future change

D Case presentation in Oral and Maxillofacial Surgery (Poliklinik in Mund- Kiefer und Gesichtschirurgie)

D.1 Introduction
Presentations cover Oral and Maxillofacial Surgery of in- and outpatient cases and give students a possibility of repeating major subjects and getting introduced in rare cases.

D.2 Primary aims
Presentation of cases with diseases, trauma or syndromes in the OMF region
Surgical treatment plan and procedure

D.3 Main objectives
Fracture diagnostic and treatment
Fractures of the mandible and the maxilla / midface
Preprosthetic surgery and sinuslift
Diagnostic and treatment of tumor patients with microsurgical tissue transfer
Diagnostic and surgery of the temporo-mandibular joint
Soft tissue and nerve injuries
Orthognathic surgery
Surgery of salivary glands
Surgical and diagnostic procedures of sinus disorders

D.4 Hours in the curriculum
The lecture runs over four terms on Wednesday and Thursday at noon for ¾ hrs, and is taken during the 3rd to the 5th year (6^{th}, 7^{th},8^{th} and 9^{th} semester).

D.5 Method of teaching / learning
Two students interview and examine the patient under supervision of the lecturer in front of the auditory and present the case to their peers. Usually two patients are presented. Additionally, these cases are further illustrated using slides, radiographs, transparencies, video presentations and live TV-broadcasting from the theatre by the lecturer. There is the possibility to discuss special questions at the end of the lecture.

D.6 Assessment methods
Attendance certificate for each course day and end of semester certificate (Schein)

D.7 Strengths
A wide range of themes are covered.

D.8 Weakness
The lecture is not well visited by students. They may still be involved in finishing their treatment or prepare their equipment for the courses in operative dentistry or prosthodontics.

D.9 Innovations and best practices
Video transmission helps with the demonstration of the cases

D.10 Plans for future change

Visitors Comments

Oral surgery and oral medicine commence with a lecture-based theoretical course. At the start of the clinical period the basics of local anaesthesia and exodontia are taught. Hands-on practicals include students administering local anaesthetics to each other. During the 7th semester case assessment and simple exodontia in patients commences. Students work in teams of 2-5 students and the practical work is closely supervised. Students can expect to carry out 1-10 extractions. Extractions may also occur in other departments as part of on-going treatment of patients. After instruction in the theory of oral medicine and maxillo-facial surgery students participate in theatre operations, as close support assistants of the surgeons. After the introductory course an oral exam is taken and the second course includes an MCQ written exam. During the operative practical courses students participate in the reception emergency clinic and continue this as part of the out of hours emergency team.

The visitors were impressed by the efficiency of the Admissions Clinic. Experience of extractions and the potential sequelae of minor oral surgery was limited in the overall programme.

The lecture courses were poorly attended. It is hoped that the integration of anatomy and oral surgery, where relevant to each other, will improve the programme. Use of advanced audio-visual techniques e.g. TV links is being considered.

13..2. Oral/Dental Radiology and Radiography

Name: Prof. Dr. Dr. Jürgen Düker
e-mail: dueker@zmk2.ukl.uni-freiburg.de

Students´ Education in Dental and Maxillofacial Radiology
is basing on 2 German Federal Laws:

1. *Approbationsordnung für Zahnärzte*
   law of licence to practise dentistry
2. *Röntgenverordnung (RöV)*
   law of radiation protection

- *The RöV has priority over the Approbationsordnung*
- *In radiography the radiation protection is of prime importance*

According to the RöV the dental students´education prescribes the time (lessons and practical training) and the subject matters:

- *24 hours course on radiation protection (minimum)*
- *48 hours course on dental and maxillofacial radiology (minimum)*
- *Final examination of the course*
- *Examination in radiology as part of the State Examination*

Primary aim is to learn the dental radiographic techniques regarding radiation protection and to learn radiographic diagnostics.

Methods of learning/teaching:
Lectures with slides, overhead, TV
Training with manikin heads, patients
Training radiographic diagnostics with tracing x-rays

Weakness:

Shortage of time within the curriculum

Visitors Comments

This compact and well delivered course encompasses both theory and practice of radiography. The course is divided into radiation protection and dental and maxillo-facial radiology. Within the course practical experience of taking X-rays on manikin heads and patients includes an average of 30 radiographs per student. The course is examined prior to sitting final exams. Time constraints were identified but the course appeared sufficient for the needs of a competent graduate particularly as simple radiographs were taken in other departments by the students as part of on-going treatment of patients. Selection criteria were explained as part of the theory of radiology.

Section 14:

14.1 Oral Medicine: See Section 13.1

14.2 Oral Pathology

Section 15:

15.1 Integrated (Comprehensive) Patient Care

No separate subjects of the dental curriculum in Germany but integrated part of different courses.

15.1 Visitors Comments

Patients can be admitted through the Admission Clinic or they may be admitted to the departmental clinics directly. Treatment plans are a function of the individual departments and staff members. The same applies initially for comprehensive patient care. However, it is obvious that the two clinics of Conservative and Prosthetic Dentistry are working as integrated clinics. A comprehensive treatment plan is drafted independently by the students and staff member and then it is the staff member who finalises the treatment plan after discussion with the student. The treatment is performed either in the Conservative or Prosthetic Clinic and an effort is made to meet all the patients needs in those clinics. Rarely patients are referred to the Conservative Clinic from the Prosthetic Clinic and the only criteria for these exchanges is the severity of the case and the abiliy of the students. The clinical training in the 10^{th} semester is done in the Prosthetic Clinic and an effort is made to treat the most difficult cases during that time. The 10^{th} semester clinic can almost be considered as a comprehensive patient care clinic and is used in preparing the students for the final clinical exam.

15.2 Dental Emergencies

The school has an on call service in the Oral Surgery Department for managing emergencies both in working and non working hours. Regular attendance as part of the out of hours team i.e. student, dentist, oral surgeon presented an excellent insight and practical experience of the responsibilities and problems that are present in a busy outpatient dental hospital.

15.3 Special Need Patients

Visitors Comments

One day per week during 10th semester is devoted to care of compromised patients. General anaesthetic services are available for this and students form part of the team involved.

Section 16: Practice Management and Communications

16.1 Behavioural Sciences, Communications, Ethics

Subject: **Course of Medical Terminology**

Name: Priv.-Doz. Dr. med. Karl-Heinz Leven
Institut für Geschichte der Medizin des Universitätsklinikums
e-mail: leven@ruf.uni-freiburg.de
Fax: +49-761-203-5039

1. Students of Dental medicine, without a degree in Latin language from school, are teached in this course during their first semester. Although Latin language is fundamental in medicine, this course is by no means intended to „teaching Latin“ to dental students. It rather tries to introduce the students to „medical humanities“ via Latin (and Greek) language.

2. Primary Aims:
   - basic grammatical skills in Latin,
   - basic knowledge of terminology, history, theory, and ethics of medicine

3. Main objectives:
   - Basic vocabulary (Latin and Greek), ability to construct and de-construct complex terms,
   - Medical terminology as a means of communication between doctors among each other, and between doctors and patients,
   - Concepts of medicine in the western world from Antiquity to the present,
   - Ethical problems in medicine.

4. 2 hrs./week

5. Lectures, exercises, discussions

6. Written examination

7. The course of Medical terminology gives an insight into medical humanities for students who are accustomed to be trained in „hard“ science and practical skills. Medicine, and dental medicine too, certainly does apply a number of sciences but as far as the patient is concerned, the historical perspective, both individual and collective, has to be taken into account. Language is a good way to open this perspective.

8. Some students may think that medical humanities be a waste of time as it seems not to be in accordance with the scientific methods, c.g. natural science. The medical historian’s task is to correct this error.

9. Development of the course in contact with the attending students, starting with the course of 1998/99 a detailed evaluation by the students is regularly performed.

10. Until now, the course of Medical terminology is obligatory only for students without a degree in Latin from school; this fact might suggest that this course is equivalent to a “language course“ which is not case. The course of Medical terminology should rather be obligatory for *all* students of dental medicine.

Visitors Comments

A course in “Medical terminology” is provided in the first semester. Students are taught basic Latin grammar and history of medical terminology and medical ethics.

There are no specific courses in behavioral sciences, communications and ethics. Students are taught the fundamentals of patient management and appropriate communication with patients as part of their on-going training in different departments. In addition students are familiar with the national insurance system, as patient treatment in the school is paid for through this system and students manage this daily. The need for specific courses in behavioural sciences, communications and ethics should be considered and the current ethics course could be moved into a later semester.

Section 17: Examinations, Assessments and Competences

Person in School who will explain and show this to the visitors:
Name: Prof. Dr. H.-G. Schaller
e-mail: schaller@zmk2.ukl.uni-freiburg.de
fax: +49 761/2704762

Exams:

The way to the Certification of Dentists in the Federal Republic of Germany is laid down by law valid for the whole Republic. This law exactly describes, which practical and theoretical courses a student has to complete to get the application to enter the final examination (Dental Examination).

Within this ruling the student has to absolve three official examinations:

1. *Scientific Preliminary Examination* (Subjects: Biology, Chemistry, Physics)

2. *Dental Preliminary Examination* (Subjects: Anatomy, Biochemistry, Physiology, Science of Dental Technics and Dental Materials)

3. *Dental Examination* (Subjects: General and Oral Pathology; Pharmacology; Science of Hygiene, Microbiology and Health Care; General and Internal Medicine; Dermatology and Venereal Deseases; Ear, Nose and Throat Medicine; Oral Medicine; Surgery - including: Dental Radiology and Radiography, Oral Surgery, General Surgery, Maxillofacial Surgery-; Operative Dentistry - including Paediatric Dentistry, Preventive and Conservative Dentistry, Endodontics, Periodontology -; Prosthodontics; Orthodontics)

All the theoretical exams are oral. There are no external examiners involved.

The examinations have to be absolved in the above sequence. After the *Dental Examination* the student can apply to the authorities for the cerfiticate enabling him/her to practise as a dentist.

Lectures and Courses:

The following lectures and courses are required to get the application to enter the *Scientific Preliminary Examination:*

Lectures: One semester Biology, two semesters Chemistry and Physics
Practical Courses: One semester Physics, one semester Chemistry

The following lectures and courses are required to get the application to enter the *Dental Preliminary Examination:*

Lectures: One Semester Histology and Embryology, two semesters Physiology, two semesters Biochemistry, two semesters Dental Materials, three semesters Anatomy.

Practical Courses: One Semester Anatomy, one Semester Biochemistry, one Semester Physiology, one semester Histology, three semesters Science of Dental Technics and Dental Materials.

The following lectures and courses are required to get the application to enter the *Dental Examination:*

Lectures: One semester General Oral Medicine, one Semester General Pathology, one semester Oral Pathology, one Semester General Surgery, one semester Ear, Nose and Throat Medicine, one Semester Science of Hygiene, one Semester Microbiology and Health Care, one semester History of Medicine, two semesters Pharmacology, two semesters General and Internal Medicine, two semesters Oral Medicine, two semesters Oral and Maxillofacial Surgery, two semesters Preventive Dentistry, Paediatric Dentistry, Conservative Dentistry, Endodontics and Periodontology, two semesters Prosthodontics, three semesters Orthodontics

Practical Courses: One semester Histopathology, one semester Clinical Chemistry, one semester Radiology and Radiography, one semester General Surgery, one semester Dermatology, one semester Preclinical Restorative Dentistry, one semester Preclinical Orthodontics, two semesters Oral and Maxillofacial Surgery, two semesters Clinical Orthodontics, two Semesters Clinical Restorative Dentistry(including Preventive Dentistry, Paediatric Dentistry, Conservative Dentistry, Endodontics and Periodontology), two semesters Clinical Prosthodontics, three semesters Oral Medicine.

For each of the above mentionend lectures and courses the student recieves a cerfiticate. In this certificate the lecturer or the head of the department has to certify, that the student attended the lectures or the courses regularly and succesfully. Usually the student has a written or oral test to prove his theoretical knowlegde. In the practical courses the student has to prove his ability and knowledge to solve certain exercises and problems.

Strengths of the System:

The rules in the law are worded in such general terms, that it is possible to bring the lectures and courses into line with the scientific development. The education is very patient focused. At the end the students are licensed to work as dentists.

Weakness of the System:

Because all the exams are oral, no comparison of the quality of the education between the different universities is possible. The sequence of the courses in law does not allow a probably necessary change. Other subjects as for example Psychology or Neurology cannot be lectured.

Plans for the Future:

Several scientific and political societies have suggested a change to the goverment concerning the examination regulations.

Visitors Comments

The examinations are mainly oral which is considered to be positive both by examiners and students. In the oral exam discussion and a feed-back can take place so that the examination comprises not only an assessment but also an opportunity to learn. The oral exams are numerous which appears to please the students.

The final examination is extensive and causes a considerable work load on the staff. It should be discussed whether this exam could be modified and reduced in scope. Furthermore, the involvement of external examiners at some stage of the curriculum should be considered.

Section 18: Other Influences

Person in School who will explain and show this to the visitors:
Name: Jens C. Türp, DDS, Dr. Med. Dent.
e-mail: tuerp@zmk2.ukl.uni-freiburg.de
fax: 49 761 270-4925

18.1 Regional oral health needs

All patients seen in the Dental School have dental health insurance, some of whom are privately insured. In contrast to private insurance companies, the treatment possibilities are confined to those for which the health insurance companies are prepared to pay. More sophisticated treatment options must be paid for by the patient himself/herself.

18.2 Evidence-based treatments

The faculty members keep up-to-date with the current literature. There are literature clubs in each department. The concept of evidence-based medicine (EBM) as proposed by David Sackett and his colleagues is well-known among faculty members and its principles have been introduced during lectures. However, at this point in time it cannot be integrated into student courses due to lack of computer facilities for students. However, after completion of the planned renovations of the Dental School, students will have better access to computer facilities, so that EBM can become an essential part of teaching.

18.3 Involvement in other university activities and sport

The university offers a variety of sports facilities and disciplines, such as tennis, skiing, swimming, racquetball, soccer, badminton, fencing, boxing, martial arts, bicycling, mountain biking, paragliding, ice skating, rugby, frisbee, horse riding, acrobatics, mountain climbing, basketball, handball, volleyball, waterpolo, ice hockey, field hockey, aerobics, gymnastics/dancing, canoeing, sailing, self-defense, table tennis, triathlon, etc. (see accompanied information leaflet).
In addition, a plethora of voluntary extracurricular cultural activities take place, in which every student is welcome to participate. Within its interdisciplinary „Studium Generale“, the University offers lectures, courses, and workshops in an array of different subjects, including politics, history, painting, theater, foreign languages, dancing, music (the university has its own academic orchestra), culinary delights, computer sciences, etc. (see accompanied information leaflet „Studium Generale“).

18.4 Recreation

Freiburg and its surroundings provide a lively social life for its students. It is the most popular student city in Germany.

18.5 Student selection procedures

The overwhelming majority of dental students (93.5%) enter the dental school by a selection procedure carried out by a federal administrative office. Sixty percent of

these students are assigned on the basis of their average high school grades („Abitur“); the remaining 40% are assigned on the basis of their waiting time after successfully graduating from high school (Abitur). The university assigns 6.5% of the places, i.e., 5% for non-EU citizens who did not go to school within a EU country, and 1.5% for members of the medical corps of the German military forces.

Visitors Comments

The prevelence of oral diseases in Germany has changed, as in other European countries, for example the DMFT at age 12 is 1.3 in the Freiburg region. The German dental insurance system has a major influence on the training and education of dentists. There have been major changes in the insurance system in recent years and this has affected the income and activity of dentists in Germany, who are less busy now. All of these factors influence the training of dentists, the availability of patients and the dental curriculum.

The selection of students is controled by the federal government system and there is no additional tests for students, such as student suitability, carried out. Generally students seem very mature.

Section 19: Student Affairs

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

Name of Student representatives who will discuss this:

Final Year: Cand. med. dent. Susanne Naumann
Fourth Year: Cand. med. dent. Dominik Emmerich
Third Year: Cand. med. dent. Niklas Umland
Second Year: Stud. med. dent. Jan Dehmel

This will be the basis of a discussion with visitors.

19.1 Basic Data from Dental Schools

a) Average number of dental students qualifying per year: _80____

b) Average number of dental students admitted to the first year:_96____

c) Length of course in years and/or semesters: __10___ semesters

d) Is there a separate period of vocational training following graduation as a dentist in your country?

YES

If the dentists want to work for the social insurance system at two year postgraduate training is required.

e) If yes to d) above, is that organised by the University/Dental School

NO

It is controlled by the “Zahnärztekammer” (= General Dental Council of Baden-Württemberg)

19.2 List different postgraduate courses
Postgraduate programm in Prosthodontics
Postgraduate programm in Endodontics
Postgraduate programm in Paediatric Dentistry
Postgraduate programm in Periodontology
Postgraduate programm in Oral Surgery
Postgraduate programm in Maxillofacial Surgery
Postgraduate programm in Orthodontics

19.3 List different auxiliary/technology/other courses and state number who qualify per year

Education of dental nurses (qualified per year: n=6).
Education of nurses (qualified per year: n=6).
Education of dental technicians (n=2 every fourth year).

Visitors Comments
The meeting with the students was well attended by them. They were willing to participate by providing viewpoints for the visitors. Students enjoy studying dentistry in Freiburg and are confident that they will make good dentists. However, they described the workload within the last 2.5 years of the programme as extensive, making it difficult to participate in other activities and to attend to all lectures, in particular in the evening. It is difficult to have international input both as exchange students and in international literature. The visitors were impressed by the students' well expressed opinions and balanced views.

Section 20: Research and Publications of the Dental School

Host school should set out the publications of all staff according to the sections set out below strictly confined to past 36 months - please exclude abstracts and articles in non-scientific or non-refereed journals

20.3 number of chapters in books
20.4 grants received > €1,000
20.5 Number of invited presentations at international meetings (excluding abstracts)

A. Orthodontics
Representative: Prof. Dr. I. Jonas
e-mail: gremmler@zmk2.ukl.uni-freiburg.de
20.1: 3
20.2: 1
20.3: 2
20.4: 3
20.5: 19

20.1 Number of publications in refereed journals

Original Publications 1996 - 1998:

Schmidt R, Jonas I. KFO-Behandlung schon im Milchgebiß. Zahnärztl. Mitt. 1996; 86: 58 - 64

Kahn S.E, Jonas I, Schilli W, Düker J, Harfin J. Crecimiento craneofacial en pacientes con fisura labio-alvéolo-palatina unilateral comparado con un pronóstico de crecimiento (VTO). Ortodoncia 1998; 62: 31 - 49

Rose E, Jonas I, Kappert H.F. In vitro investigation into the biological assessment of orthodontic wires. J Orofac Orthop 1998; 59: 253 - 264

Rose E, Schmidt R, Barthlen G, Jonas I. Fallberichte zur Bedeutung eines enoralen Gerätes bei der Therapie des Schnarchens und des obstruktiven Schlafapnoesyndroms. Z Stomatol 1998; 95: 459 - 466

20.2 Number of textbooks published by staff

Chapters in Textbooks 1996 - 1998:

Rakosi Th, Jonas I, Graber T.M. Orthodontic Diagnosis/Korean Edition. Seoul Medical Publ, Seoul 1996

Rakosi Th, Jonas I, Graber T.M. Orthodontic Diagnosis/Japanese Edition. Ishiyaku Publ. Inc., Tokyo 1997

Lapatki B. Quantitative Untersuchung zur Beurteilung funktioneller Parameter beim Trompetenspiel. Edition Wissenschaft, Reihe Humanmedizin 1998

Rakosi Th, Jonas I, Graber T.M. Orthodontic Diagnosis/Portuguese Edition. Artes Medicas, Porto Alegre, Brasilien 1998

Rose E, Jonas I. Das Obstruktive Schlaf-Apnoe-Syndrom (OSAS) - aus zahnärztlicher Sicht. In: Heidemann D., editors. Deutscher Zahnärztekalender. Carl Hanser Verlag München/Wien 1998: 151 - 163

B. Conservative Dentistry, including Periodontology, Endodontics, Paediatric Dentistry

Representative: Prof. Dr. E. Hellwig
e-mail: hellwig@zmk2.ukl.uni-freiburg.de

20.1: 53
20.2: 2
20.3: 9
20.4: 38
20.5: ---

20.1 Original publications:

1996

Attin T, Buchalla W, Hellwig E. Influence of enamel conditioning on bond strength of resin-modified glass ionomer restorative materials and polyacid-modified composites. J Prosthet Dent 1996; 76: 29-33

Attin T, Buchalla W, Kielbassa AM, Hellwig E. Physical properties of light-cured glass ionomer materials - Enamel and dentin bond strength. J Prosthet Dent 1996; 76: 29-33

Attin T, Hellwig E. Salivary fluoride content after toothbrushing with a sodium fluoride and an amine fluoride dentifrice followed by different mouthrinsing procedures. J Clin Dent 1996; 7: 6-8

Attin T, Hilgers RD, Hellwig E. Einfluß von Muzin auf die Entstehung von Schmelzerosionen. Dtsch Zahnärztl Z 1996; 51: 506-510

Attin T, Kielbassa AM, Lübke T, Schulte-Mönting J, Hellwig E. Wurzelkanalfüllungen mit Glasionomerzement-Sealern. Acta Med Dent Helv 1996; 1: 7-12

Attin T, Kielbassa AM, Plogmann S, Hellwig E. Fluoridfreisetzung aus Kompomeren im sauren und neutralen Milieu. Dtsch Zahnärztl Z 1996; 51: 675-678

Attin T, Vataschki M, Buchalla W, Kielbassa AM, Hellwig E. Randqualität lichthärtender Glasionomerzemente und Dyract in keilförmigen Defekten, Klasse I- und Klasse V-Kavitäten. Dtsch Zahnärztl Z 1996; 51: 17-22

Attin T, Vataschki M, Hellwig E. Properties of resin-modified glass ionomer restorative materials and two polyacid-modified resin composite materials. Quintessence Int 1996; 27: 203-209

Buchalla W, Attin T, Hellwig E. Influence of Dentin Conditioning on Bond Strength of Light-cured Ionomer Restorative Materials and Polyacid modified Resins. J Clin Dent 1996; 7: 81-84

Hahn P. Die Therapie einer Zahnwurzelperforation. Endodon 1996; 5: 113-120

Hahn P. Lokalisierter Knochenabbau durch den Kofaktor Fehlbelastung. Zahnärztl Mitt 1996; 86: 50-51

Hahn P, Schaller H-G, Kielbassa AM, Hirth S. Effect of different chemical compounds on the permeability of dentin. Pediatric Review 1996; 13: 10-15

Hellwig E. Biochemie und Toxikologie der Fluoride. Stomatologie 1996; 963: 455-472

Hellwig E. Biochemie und Toxikologie der Fluoride. Dtsch Zahnärztl Z 1996; 51: 638-648

Kern M, Kleimeier B, Schaller H-G, Strub JR. Clinical comparison of post-operative sensitivity for a glass ionomer and a zinc phosphate luting cement. J Prosthet Dent 1996; 75: 159-162

Kielbassa AM, Attin T, Käfer C, Hellwig E. Die Schmelzhaftung von Komposit nach Anwendung unterschiedlicher Fluoridierungsmaßnahmen. Dtsch Zahnärztl Z 1996; 51: 608-612

Kielbassa AM, Hellwig E. Endodontische Maßnahmen im Wechselgebiß. ZMK 1 1996; 12: 6-18

Kümmerer K, Kielbassa AM, Wallenhorst T, Staschke M. Remobilisierung von Quecksilber durch Desinfektionsmittel aus Amalgamabscheidern zahnärztlicher Behandlungseinheiten. Vom Wasser 1996; 86: 33-42

Landsee R, Attin T. Seitenzahnrestaurationen mit Komposit unter besonderer Berücksichtigung der Integration keramischer Inserts. Quintessenz 1996; 47: 1171-1182

Schaller H-G, Hahn P. Die Wirkung eines Hexetidin-/Cetylpyridiniumchlorid-haltigen Mundsprays als alleiniges oder unterstützendes Mundhygienemittel. Parodontologie 1996; 7: 119-128

Wrbas K-Th, Attin T. Adhäsives Zementieren mit einem Kompomer-Befestigungszement - Ein Fallbericht. Zahnarztl Welt Zahnarztl Rundsch ZWR 1996; 105: 404-409

1997

Alt K, Kölbel W, Vach W, Krekeler G. Die Zahnkaries in der frühmittelalterlichen Bevölkerung. Zahnärztl Mitt 1997; 87: 2376

Attin T. Neue Aspekte zur Kariologie. Prophylaxe Dialog 1997; 1: 9-11

Attin T. Einfluß von Natriumfluoridspüllösungen auf die Bürstabrasion von erodiertem Zahnschmelz. Acta Med Dent Helv 1997; 2: 165-172

Attin T, Hilgers R-D, Hellwig E. Beeinflussung des erosionsbedingten Oberflächenhärteverlusts von Zahnschmelz durch Fluorid. Dtsch Zahnärztl Z 1997; 52: 241-245

Attin T, Kielbassa AM, Schwanenberg M, Hellwig E.. Effect of fluoride treatment on remineralization of bleached enamel. J Oral Rehabil 1997; 24: 282-286

Attin T, Koidl U, Buchalla W, Schaller H-G Kielbassa AM Hellwig E. Correlation of Microhardness and Wear in Differently Eroded Bovine Dental Enamel. Arch Oral Biol 1997; 42: 243-250

Attin T, Schaller H-G, Hellwig E. Fluoride uptake in dentin with and without simulating dentinal fluid flow. Clin Oral Invest 1997; 1: 125-130

Bach G, Krekeler G. El láser de inyección. Un nuevo láser duro para el tratamiento en cirugía oral. Quintessence (ed. esp.) 1997; 10: 660-665

Buchalla W, Attin T, Hellwig E. Einfluß der Schmelzätztechnik auf die Haftung von Kompomer-Füllungsmaterialien. Dtsch Zahnärztl Z 1997; 52: 463-466

Hellwig E. Kariesprophylaxe mit Fluorid: aktuelle Konzepte und Trends. Phillip J 1997; 9-10: 292-294

Hellwig E. Prophylaxe - ein Leben lang. Münch Med Wschr 1997; 40: 579/25

Hellwig E. Die Prävention für jedes Lebensalter. Zahnärztl Mitt 1997; 87: 518-528

Kielbassa AM. Matrize zum Füllen mehrflächiger Zahnkavitäten mit lichthärtenden Werkstoffen. Offenlegungsschrift, Deutsches Patentamt (DE 195 46 454 A1), 19.06.97.

Kielbassa AM. Prophylaxe der Wurzelkaries beim älteren Patienten. Prophylaxe Impuls 1997; 1: 6-18

Kielbassa AM, Attin T, Hellwig E. Diffusion behavior of eugenol from zinc oxide-eugenol mixtures through human and bovine dentin in vitro. Oper Dent 1997; 22: 15-20

Kielbassa AM, Attin T, Hellwig E, Schade-Brittinger C. In vivo study on the effectiveness of a lacquer containing CaF2/NaF in treating dentine hypersensitivity. Clin Oral Invest 1997; 1: 95-99

Kielbassa AM, Attin T, Wrbas K-Th, Dornfeld Th. Hellwig E. Untersuchungen zur zeitabhängigen Haftung moderner Füllungswerkstoffe auf perfundiertem Milchzahndentin. Dtsch Zahnarztl Z 1997; 52: 119-123

Kielbassa AM, Attin T, Wrbas K-Th, Stosseck M, Hellwig E.. Der Einfluß der unterschiedlichen Verarbeitung des Haftvermittlers auf die Zughaftung von Glaskeramik auf Dentin. Dtsch Zahnarztl Z 1997; 52: 252-256

Kielbassa AM, Beetz I, Schendera A, Hellwig E. Irradiation effects on microhardness of fluoridated and non-fluoridated bovine dentin. Eur J Oral Sci 1997; 105: 444-447

Kielbassa AM, Pioch T, Rowbotham F, Hellwig E, Staehle HJ. In vivo erzeute Demineralisation bei tumortherapeutisch bestrahltem, menschlichem Zahnschmelz. Acta Med Dent Helv 1997; 2: 193-198

Kielbassa AM, Rowbotham F, Hellwig E, Schade-Brittinger C. Der Einfluß der Mundhygiene auf die Entstehung der initialen karies in tumortherapeutisch bestrahltem Schmelz - eine In-situ-Untersuchung. Dtsch Zahnärztl Z 1997; 52: 735-740

Kielbassa AM, Schilli K. Betreuung des tumortherapeutisch bestrahlten Patienten aus Sicht der Zahnerhaltung. Zahnärztl Mitt 1997; 87: 2636-2647

Kielbassa AM, Wrbas K-Th, Hellwig E. Initial tensile bond strength of resin-modified glass ionomers and polyacid-modified resins on perfused primary dentin. J Dent Child 1997; 64: 183-187

Krekeler G. Augmentationsmembranen, was können wir erwarten? Implantologie 1997; 3: 199

Krekeler G. Derzeitiger Stand der zahnärztlichen Implantologie. Zahnärztebl Baden Wurttemb 1997; 25: 31

Kümmerer K, Wallenhorst T, Kielbassa AM. Mercury emissions from dental chairs and their reduction. Chemosphere 1997; 35: 827-833

Landsee R, van der Linden F, Schönfeld H, Häusler G, Kielbassa AM, Radlanski RJ, Drescher D, Miethke R-R. Die Entwicklung von Datenbanken zur Unterstützung der Aus-, Fort- und Weiterbildung sowie der Diagnostik und Therapieplanung in der Zahnmedizin. Teil 1. Kieferorthop 1997; 11: 283-290

Mall C, Krekeler G. A la carza del tixel. Las primeras experiencias con una camera digital en las consulta dental. Quintessenz, ed. esp. 1997; 10: 666

Schaller HG, Weihing T, Strub JR. Permeability of dentin after Nd:YAG laser treatment: An in vitro study. J Oral Rehabil 1997; 24: 274-281

Wrbas K-T, Kielbassa AM, Hellwig E. Microscopic studies of accessory canals in primary molar furcations. J Dent Child 1997; 64: 118-122

Wrbas K-T, Kielbassa AM, Hellwig E. Das Wasseraufnahmeverhalten verschiedener Wurzelkanalsealer. Dtsch Zahnärztl Z 1997; 53: 146-151.

1998

Alt KW, Riemensperger B, Fach W, Krekeler G. Zahnwurzellänge und Zahnhalsdurchmesser als Indikatioren zur Geschlechtsbestimmung an menschlichen Zähnen. Antrop Anz 1998; 56: 131-144

Antonopoulos KG, Attin T, Hellwig E. Evaluation of the apical seal of root canal fillings with different methods. J Endod 1998; 24: 655-658

Attin T. Sicherheit und Anwendung von carbamid-peroxidhaltigen Gelen bei Bleichtherapien. Dtsch Zahnärztl Z 1998; 53: 11-16

Attin T, Buchalla W. Werkstoffkundliche und klinische Bewertung von Kompomeren. Dtsch Zahnärztl Z 1998; 53:766-774

Attin T, Buchalla W, Trett A, Hellwig E. Toothbrushing abrasion of polyacid-modified composite resins in neutral and acidic buffer solutions. J Prosthet Dent 1998; 80: 148-150

Attin T, Opatowski A, Meyer C, Zingg-Meyer B, Hellwig E. Clinical evaluation of a hybrid composite and a polyacid-modified composite resin in Class-II restorations in deciduous molars. Clin Oral Invest 1998; 2: 115-119

Attin T, Zirkel C, Hellwig E. Brushing abrasion of eroded dentin after application of sodium fluoride solutions. Caries Res 1998; 32: 344-350

Bach G, Krekeler G. Präimplantologische Diagnostik mit enoraler B-Scan-Sonografie. Phillip J 1998; 15: 174-178

Buchalla W, Attin T, Kalb K, Hellwig E. Fluoridabgabe und -aufnahme eines experimentellen Komposits in vitro und in situ. Dtsch Zahnärztl Z 1998; 53: 707-712

Buchalla W, Attin T, Kalb K, Hellwig E. Fluoridfreisetzung aus einem hydoxylapatithaltigen Komposit. Dtsch Zahnärztl Z 1998; 53: 707-712

Hahn P. Orale Prävention im weltweiten Überblick. Prophylaxedialog 1998; 1: 13-15

Hahn P, Müller J, Schaller HG, Hellwig E. Einfluß von Kariestherapie und Mundhygieneinstruktion auf Streptokokken- und Laktobazillenzahl im Speichel. Dtsch Zahnärztl Z 1998; 53: 694-696

Hahn P, Schaller HG, Betcher V, Hellwig E. Untersuchung zum Randschluß von vier Insert-Systemen. Dtsch Zahnärztl Z 1998; 53: 494-500

Hahn P, Schaller HG, Müllner U, Hellwig E. Marginal leakage in class II-restrorations after use of ceramic-inserts in combination with different luting cements. J Oral Rehabil 1998; 25: 567-574

Haller B, Hellwig E. Moderne Zahnfüllungsmaterialien: Werkstoffeigenschaften und klinische Verarbeitung von SOLITAIRE und ARISTON pHc. ZBW 1998; 9: 26-33

Hellwig E. Does advertising render dental research superfluous? Editorial. Clin Oral Invest 1998; 2

Hellwig E. Salzfluoridierung - ein effektiver und sicherer Weg der Kariesprophylaxe. Oralprophylaxe 1998; 20: 182-189

Hellwig E. Stadien der Karies. Versiegelung, "Remineralisation", minimal-invasive Therapie. Oralprophylaxe 1998; 20: 132-142

Hellwig E. Wissenschaft und Werbung. Editorial. Dtsch Zahnärztl Z 1998; 53: 2

Hellwig E, Haller B. Moderne Zahnfüllungsmaterialien: Indikationsgebiete und klinische Verarbeitung. ZBW 1998; 8: 19-26

Kielbassa AM, Schaller H-G, Hellwig E. Qualitative Befunde bei in situ erzeugter Initialkaries in tumortherapeutisch bestrahltem Dentin. Acta Med Dent Helv 1998; 3: 161-168

Kielbassa AM, Wrbas K-T. Die partielle Pulpaamputation als Verfahren zur Apexogenese nach komplizierter Kronenfraktur bei nicht abgeschlossenem Wurzelwachstum. Endodontie 1998; 2: 139-150

Krekeler G. Periimplantäre Probleme. Zahnärztl Mitt 1998; 88: 28

Krekeler G. Parodontalerkrankungen: Neue Wege in Diagnostik und Therapie. Zahnärzteblatt Baden-Württemberg 1998; 6: 130

Krekeler G. 8 years clinical experience with a sinuslift. Advantages of a heavy discussed procedure. Acta Stomatologica Croatia 1998; 32: 146

Krekeler G, Schilli W, ten Bruggenkate C, Kniha H, Schenk R, Gahlert G. Sinusbodenaugmentation - eine zuverlässige Methode zur Verbesserung der Implantatintegration? Z Zahnärztl Implantol 1998; 14: 198-207

Ruopp CM, Bach G, Krekeler G. Investigaciones comparativas mediante microscopio de rastreo electrónico sobre el desgaste de diferentes métodos de afilado de instrumentos periodontales. Quintessence (ed. esp.) 1998; 11: 32-37

Schaller H-G, Kielbassa AM, Hahn P, Attin T, Hellwig E. Die Haftung von Dentinhaftvermittlern an kariös verändertem Dentin. Dtsch Zahnärztl Z 1998; 53: 69-72

Schilli W, Krekeler G. Erweitertes Indikationsspektrum zum Einsatz enossaler, oraler Implantate. Freie Zahnarzt 1998; 2: 48-52

ten Bruggenkate CM, Asikainen P, Foitzik C, Krekeler G, Sutter F. Short (6-mm) Nonsubmerged Dental Implants: Results of a Multicenter Clinical Trial of 1 to 7 Years. Int J Oral Maxillofac Implants 1998; 13:791-798

van den Bergh JPA, ten Bruggenkate CM, Krekeler G, Tuinzing DB. Sinusfloor elevation and grafting with autogenous iliac crest bone. Clin Oral Impl Ref 1998; 9: 429-435

Wrbas K-T, Kielbassa AM, Hellwig E. Das Wasseraufnahmeverhalten verschiedener Wurzelkanalsealer. Dtsch Zahnärztl Z 1998; 53: 146-151

Wrbas K-T, Kielbassa AM, Schulte-Mönting JC, Hellwig E. Die Reproduzierbarkeit und Aussagekraft des Bißflügelbefundes. Dtsch Zahnärztl Z 1998; 53: 501-506

20.2 Textbooks and chapters in textbooks:

1996

Hellwig E. Zahnmedizinische Prophylaxe - Eine neue Herausforderung. In: Zahnmedizinische Versorgung in Deutschland und in der Schweiz - Ein Systemvergleich. KZBV Eigendruck 1996

Kielbassa AM, Attin T, Wrbas K-Th, Stosseck M, Hellwig E. Bond Strength of Glass Ceramic to Dentin after Cementation with Modified Use of Bonding Agent. In: Mörmann WH, editor. CAD/CIM in Aesthetic Denitstry. CEREC 10 Year Anniversary Symposium. Quintessenz-Verlags-GmbH, Berlin 1996

1998

Attin T. Wurzelkanalfüllmaterialien. In: H. Meiners, K.M. Lehmann, editors. Klinische Materialkunde für Zahnärzte. Hanser Verlag, München 1998

Attin T, Buchalla W. Kompomerfüllungen. In: Metallfreie Restaurationen. Spitta Verlag 1998

Attin T, Hahn P, Landsee R. Insert-Systeme. In: Innovationen für die Zahnheilkunde. Spitta Verlag, Balingen 1998

Hellwig E. Kariesprophylaxemittel. In: H. Meiners, K.M. Lehmann, editors. Klinische Materialkunde für Zahnärzte. Hanser Verlag, München 1998

Hellwig E, Klimek J. Epidemiologie der Karies. In: Heidemann D, editor. Kariologie und Füllungstherapie. Urban & Schwarzenberg 1998

Krekeler G. Parodontologie. In: Schwenzer et al., editors. Chirurgie. Thieme Verlag 1998

Lehmann KM, Hellwig E. Einführung in die restaurative Zahnheilkunde. Urban & Schwarzenberg, München 1998

C. Prosthodontics
Representative: Prof. Dr. J. R. Strub
e-mail: weber@zmk2.ukl.uni-freiburg.de
20.1: 61
20.2: 1
20.3: 5
20.4: 20
20.5: 78

Please exclude abstracts or articles in non refereed journals

Original Publications 1996
Akar D., Dowdy J., Lindemann S., Ostermann A.C., Swales J.M., Türp J.C.: A linguistic analysis of patient letters to the TM Association. Preliminary results. The TMJ Report, 1996; (Summer): 2-4

Daftary F., Blatz M.B.: Das "Bio-Esthetic"-Aufbautensystem - eine Weiterentwicklung in der Implantatprothetik. Implantologie, 1996; 3: 235-243

Heller G., Kern M.: Der Einsatz eines automatischen Misch- und Dosiersystems für Abformmaterialien. Ein
klinischer Erfahrungsbericht. Quintessenz, 1996; 47: 1331-1343

Hildebrand D.: Implantatgetragene Brücke versus abnehmbare Teilprothese - Differentialtherapeutische
Überlegungen anhand eines Fallbeispiels (I). Quintessenz, 1996; 47: 341-350

Hildebrand D.: Implantatgetragene Brücke versus abnehmbare Teilprothese - Differentialtherapeutische
Überlegungen anhand eines Fallbeispiels (II). Quintessenz, 1996; 47: 481-490

Hildebrand D., Blatz M., Hürzeler M.B.: Implantatsysteme und ihre Komponenten. Implantologie, 1996; 4: 357-360

Hürzeler M.B., Weng D.: A new technique to combine barrier removal at dehisced implant sites with a plastic periodontal procedure. Int J Periodont Restorative Dent, 1996; 16: 149-163

Hürzeler M.B., Weng D.: Erleichterung der autologen Knochenaugmentation nach Implantation mittels eines neuen Filtersystems. Quintessenz, 1996; 47: 275-280

Hürzeler M.B., Weng D.: Knochenregeneration um Implantate - eine klinische Studie mit einer neuen resorbierbaren Membran. Dtsch Zahnärztl Z, 1996; 51: 298-303

Hürzeler M.B., Kirsch A., Ackermann K.L., Quinones C.R.: Reconstruction of the severely resorbed maxilla with dental implants in the augmented maxillary sinus: A 5-year clinical investigation. Int J Oral Maxillofac Implants, 1996; 11: 667-678

Hürzeler M.B., Quinones C.R., Morrison E.C., Caffesse R.G.: Treatment of periimplantitis using guided bone regeneration and bone grafts, alone or in combination, in beagle dogs. II. Histological findings. Int J Oral Maxillofac Implants, 1996; 11: 466-475

Kern M., Kleimeier B., Schaller H.G., Strub J.R.: Clinical comparison of postoperative sensitivity for a glass-ionomer and a zinc phosphate luting cement. J Prosthet Dent, 1996; 75: 159-162

Kern M., Thompson V.P.: Durability of the resin bond between leucite reinforced glass-ceramic and enamel. IADR DMG Microfiche, 1996, 75

Kern M.: Einzelzahnimplantate - oder gibt es auch noch etwas anderes? Implantologie, 1996; 4: 195-196

Kern M., Thompson V.P.: Klebeverbund zwischen Aluminiumoxidkeramik und Zahnschmelz nach längerer
Wasserlagerung. Dtsch Zahnärztl Z, 1996; 51: 246-248

Kohal R.J., Klaus G., Gieloff B., Hürzeler M B., Strub J.R.: Wurzelanaloge Titanimplantate (Bio-design-Implantate) für die Sofortimplantation - Das Re Implant-System. Implantologie, 1996; 2: 99

Müller K., Hürzeler M.B., Gläser, R.: Kombination von verzögertem Sofortimplantat, Knochenregeneration und subepithelialem Bindegewebstransplantat zur Verbesserung der Ästhetik. Implantologie, 1996; 4: 337-346

Papavasiliou G., Tripodakis, A.P.D., Kamposiora P., Strub J.R., Bayne, S.C.: Tinite element analysis of ceramic abutment - restoration combinations for osseointegrated implants. Int J Prosthodont, 1996; 9: 254

Riedel R., Benkeser G., Kern M., Strub J.R.: Erste klinische Ergebnisse mit einem neuartigen Feder-Riegel-Element für die Geschiebeprothetik. Dtsch Zahnärztl Z, 1996; 51: 246

Romanos G.R., Schröter-Kermani C., Strub J.R.: Inflamed human periodontal versus peri-implant gingival tissues: An immunohistochemical differentation of the extracellular matrix. Int J Oral Maxillofac Impl, 1996; 11: 605

Stoll P., Wächter R., Schlotthauer U., Türp J.C.: Spätergebnisse bei 15 Jahre und länger zurückliegenden
Kiefergelenkfortsatzfrakturen. Fortschr Kiefer Gesichtschir, 1996; 47: 101

Strub J.R., Witkowski S., Einsele F.: Enossale orale Implantologie aus prothetischer Sicht. Berlin: Quintessenz, 1996

Strub J.R., Witkowski S., Einsele F.: Prosthodontic aspects of implantology. In: Watzek G. (Hrsg): Endosseos Implantology in clinical and scientific aspects. Chicago: Quintessence, 1996

Türp J.C., Vach W., Strub J.R.: Abhängigkeit des Ausmaßes der maximalen Mundöffnung von der Anzahl der Meßwiederholungen. Quintessenz, 1996; 47: 101-110

Türp J.C., Stoll P., Vach W., Strub J.R.: Computerized axiographical evaluation of condylor movements in cases with fractures of the condylor process - a follow-up study over 19 years. J Cranio Maxillofac Surg, 1996; 24: 46

Türp J.C., Alt K.W.: Denominación dental: ventajas del sistema de la FDI de dos dígitos. Quintessence (Edición Espanola), 1996; 9: 674-677

Türp J.C., Harbich C., Alt K.W., Vach W., Strub J.R.: Determining condylar and ramus height with the help of an Orthopantomogram - a valid method? J Oral Rehabil, 1996; 23: 395

Türp J.C., Strub J.R.: Gelenkgeräusche aus der Sicht der Orthopädie - eine Fragebogenstudie unter
Lehrstuhlinhabern. Dtsch Zahnärztl Z, 1996; 51: 345

Türp J.C., Strub J.R.: Prosthetic rehabilitation in patients with temporomandibular disorders. J Prosthet Dent, 1996; 76: 418-423

Türp J.C., Gobetti J.P.: The cracked tooth syndrome - an elusive diagnosis. J Amer Dent Assoc, 1996; 127: 418-423

Türp J.C., Gobetti J.P.: Trigeminal neuralgia vs. atypical facial pain: a review of the literature and case report. Oral Surg, Oral Med, Oral Path, Oral Radiol Endod, 1996; 81: 424-432

Türp J.C., Alt K.W., Henke H.: Zähne und Kiefer - Schlüsselstrukturen zum Verständnis der Evolution. Quintessenz, 1996; 47: 1711-1724

Weingart D., Joos u., Schenk R., Strub J.R.: Einlagerung von Knochentransplantaten und simultane enossale Implantation im Sinus maxillaris ohne Kieferhöhlenschleimhautpräparation - Eine zuverlässige Methode? Dtsch Zahnarztl Z, 1996; 51: 124

Witkowski S., Weng D.: Röntgenschablonen und bildgebende Verfahren in der prothetisch orientierten Implantologie. Quintessenz der Zahntech, 1996; 22: 1298-1316

Wood M., Kern M., Thompson V.P., Romberg E.: Ten-year clinical and microscopic evaluation of resin-bonded restorations. Quintessence Int, 1996; 27: 803-807

Wissenschaftliche Publikationen 1997:

Alt K.W., Türp J.C.: Einleitung. In: Alt K.W., Türp J.C. (Hrsg): Die Evolution der Zähne. Phylogenie - Ontogenie -Variation. Berlin: Quintessenz-Verlag, 1997, 23-28

Alt K.W., Türp J.C. (Hrsg): Die Evolution der Zähne. Phylognie - Ontogenie - Variation. Berlin: Quintessenz-Verlag, 1997, 31-46

Hürzeler M.B., Quinones C.R., Hutmacher D., Schüpbach P.: Guided bone regeneration around dental implants in the atrophic alveolar ridge using a bioresorbable barrier. An experimental study in the monkey. Clin Oral Impl Res, 1997; 8: 323-331

Hürzeler M.B., Weng D., Kohal R.J., Schüpbach P., Schmidt K.H.: Neues knocheninduzierendes Biomaterial (BIC) zur Behandlung der Periimplantitis. Eine Pilotstudie am Beagle-Hund. Z Zahnärztl Implantol, 1997; 13 / 2: 103-108

Kern M.: Doppelkronensysteme. In: Freesmeyer, W.B. (Hrsg): Klinische Prothetik. Band II. Herausnehmbarer Zahnersatz. Heidelberg: Hüthig, 1997

Kohal R.J., Hürzeler M.B., Mota L.F., Klaus G., Caffesse R.G., Strub J.R.: Custom made root analogue titanium implants placed into extraction sockets. An experimental study in monkeys. Clin Oral Impl Res, 1997; 8: 386-392

Kohal R.J., Hürzeler M.B., Schneider S.R., Riede U.N., Caffesse R.C.: The effect of a calcium hydroxide paste on wound healing and osseointegration of dental implants. A pilot study in Beagle dogs. Clin Oral Impl Res, 1997; 8: 375-385

McNamara J. Jr., Türp J.C.: Orthodontics and temporomandibular disorders - is there a relationship? I. Clincal studies. J Orofac Orthoped/Fortschr Kieferorthop, 1997; 58: 74-89

Türp J.C., Obrez A., Radlanski R.J.: Anatomie und Ontogenese des menschlichen Kiefergelenks. In: Alt K.W., Türp J.C. (Hrsg): Die Evolution der Zähne. Phylogenie - Ontogenie - Variation. Berlin: Quintessenz-Verlag, 1997, 647-675

Türp J.C., Vach W., Strub J.R.: Die klinische Bedeutung von Kiefergelenkgeräuschen. Eine Fragebogenstudie unter Zahnärzten und Orthopäden. Schweiz Monatsschr Zahnmed, 1997; 107: 191-195

Türp J.C., Alt K.W., Schumacher G.-H.: Die phylogenetische Entwicklung des Kiefergelenks. In: Alt K.W., Türp J.C. (Hrsg): Die Evolution der Zähne. Phylogenie - Ontogenie - Variation. Berlin: Quintessenz-Verlag, 1997, 609-645

Türp J.C., Kowalski C., Stohler C.S.: Greater disability with increased pain involvement, pain intensity and
depressive preoocupation. Eur J Pain, 1997; 1:

Türp J.C., Alt K.W.: Grundwissen der Odontologie: Topographie, Terminologie und Klassifikation. In: Alt K.W., Türp J.C. (Hrsg): Die Evolution der Zähne. Phylogenie - Ontogenie - Variation. Berlin: Quintessenz-Verlag, 1997, 451-470

Türp J.C., Stohler C.S., Cowley T.: Musculus sphenomandibularis - is it really a new muscle? Acta Anat, 1997; 158: 150-154

Türp J.C.: Myoarthropathien des Kausystems - mehr als nur ein zahnmedizinisches Problem. Dtsch Med Wochenschr, 1997; 122: 483-487

Türp J.C., McNamara J. Jr.: Orthodontics and temporomandibular disorders - is there a relationship? II. Clinical implications. J Orofac Orthoped/Fortschr Kieferorthop, 1997; 58: 136-143

Türp J.C., Kowalski C., Stohler C.S.: Pain descriptors characteristic of persistent facial pain. J Orofac Pain, 1997; 11: 285-290

Türp J.C., Brace C.L., Alt K.W.: Richard Owen and the Comparative Anatomy of Teeth. J Hist Dent, 1997; 107: 191-195

Türp J.C., Kowalski C., Stohler C.S.: Temporomandibular disorders - pain outside the head and face is rarely acknowledged in the chief complaint. J Prosthet Dent, 1997; 78: 592-595

Witkowski, S.: Das Dentsply-Hex-Direkt-Zylindersystem. Implantologie, 1997; 1: 65-69

Witkowski S.: Die implantatgetragene Suprastruktur. Kurskompendium für praktische Laborkurse. Freiburg: Eigenverlag, Freiburg, 1997
[Sonstige Publikation]

Wissenschaftliche Publikationen 1998:

Strub, J.R., Farimani-Strub, M., Semsch, R., Hürzeler, M.B.
Synoptisches Behandlungskonzept der Abteilung Poliklinik für Zahnärztliche Prothetik, Albert-Ludwigs-Universität, Freiburg, Deutschland. In: Lang NP. (Edit): Behandlungskonzepte. Quintessenz, Berlin, 1998.

Romanos, G., Hotz, S.T.K., Beyer, F., Strub, J.R.
Influence of collagen membranes and collagenous sponge material in the connective tissue matrix. An immunohistochemical study.
In: Stark, G.B. Horch, R. Tanczos, E. (Eds.) Biological Matrices and Tissue Reconstruction, Springer, Berlin, 1998.

D. Oral Surgery, Oral Medicine

Representative: PD Dr. Dr. G. Lauer
e-mail: lauer@zmk2.ukl.uni-freiburg.de

20.1: 44
20.2: 2
20.3: 65
20.4: 8
20.5: ---

1996

20.1 Original Publ.

Bähr W, Coulon JP:
Limits of the Mandibular Symphysis as a Donor Site for Bone Grafts in Early Secondary Ceft Palate Osteoplasty.
Int J Oral Maxillofac Surg 25:389-393,1996

Bähr W :
Maxillary Augmentation With Microvascularly Anastomosed fibula.
Int J Oral Maxillofac Impl 11(6):719-727,1996

Bähr W:
Oberkieferaufbau mit mikroanastomosierter Fibula.
Dtsch Zahnärztl Z 51: 53-55,1996

Bähr W:
Die operative Entfernung der unteren Weisheitszähne.
ZM 86(8):886-892,1996

Bähr W, Rosbander R, Gutwald R, Scholz C:
A New Resorbable Device for Small Vessels - an Experimental Study in Rabbits.
J Cranio Max Fac Surg 24(1):15,1996

Blume O, Schirra Chr, Tilse R:
Kongreßbericht ITI Worldsymposium 1996.
Implantologie 4: 363- 371, 1996

Fabinger A, Fiedler P:
Somatoforme Störungen in der Zahn-, Mund- und Kieferheilkunde: Theoretische Einordnung, verhaltenstherapeutische Perspektiven und Fallbeschreibung.
Verhaltensmodifikation und Verhaltensmedizin 17 (3): 213-231, 1996

Lauer G, Schwarz U, Schilli W:
Transalveolar Fixation of the Periimplant Soft Tissue in the Mandible: Surgical Method and Clinical Follow-up.
J Oral Maxillofac Surg 54: 690-697, 1996

Otten J-E, Rose E, Rückauer K, Schilli W:
Obraz Urazów u Pacjentów ze Zlamaniami Czesci Twarzowej Czaski.
Stomatol (Warschau) 56: 35-37, 1996

Otten J-E, Lauer G, Pelz K, Weidekamm J:
Invasion of Cultivated Gingival Epithelium by Oral Bacteria.
J Cranio Max Fac Surg 24(1): 85, 1996

Stoll P, Wächter R, Schlotthauer U, Türp J:
Spätergebnisse bei 15 Jahre und länger zurückliegenden Kiefergelenkfortsatzfrakturen. -Eine klinisch-röntgenologische Studie.
In: Schwenzer, N. (Hrsg.): Traumatologie des Unterkiefers, Orbitaerkrankungen.
Fortschr Mund-, Kiefer-Gesichts-Chir XXXXI.
Georg Thieme, Stuttgart, 127-130, 1996

Stoll P:
Prevention of Bleeding after Neck Dissection
Biomed Progr. 9: 45-48, 1996

Stoll P, Hassel J:
Progress in the Therapy of Mandibular Cancer.
Int Video-J Plast Esthet Surg Vol 3, Nr. 2, 1996
Stoll, P., Wächter, R., Buitrago-Téllez, C.H., Langer, M.:
3D-CT-Darstellung bei komplexen Trümmer- und Defektfrakturen des Gesichtsschädels.
Medizin im Bild 3: 13-21, 1996

Stoll P, Wächter R:
Titanium Screw Implants (Bonefit^{R}) in Vascular and Avascular Bone Grafts for Mandible Repair.
J Cranio Max- Fac Surg 24: Suppl. 1.1, 155, 1996

Stoll P, Wächter R:
Functional and Morphologic Results after Conservative and Surgical Treatment of Condylar Neck Fractures.
J Cranio Max- Fac Surg 24: Suppl 1.1, 110, 1996

Stoll P, Wächter R, Buitrago-Téllez C H, Beschnidt M:
Imaging of Maxillofacial Disorders Using Reproducible 3-Dimensional Computed Tomography Projections.
J Cranio Max- Fac Surg 24: Suppl 1.1, Suppl 1.1, 110, 1996

Türp C J, Stoll P, Schlotthauer U, Vach W, Strub J R:
Computerized Axiographical Evaluation of Condylar Movements in Cases with Fractures of the Condylar Process - a Follow-up after 19 Years.
J Cran Max Fac Surg 24: 46-52, 1996

Wächter R, Stoll P:
Long-Term Results after Application of the THORP-System in Tumor Surgery and Traumatology: 12-Year Experience Report.
J Cranio Max- Fac Surg 24: Suppl 1.1, 123, 1996

Wächter R, Stoll P, Schilli W:
Orale Rehabilitation von Patienten nach Oberkieferteilresektion mit dentalen Implantaten und Obturatorprothesen.
Z Zahnärztl Implantol 12: 43-49, 1996

Wächter R, Stoll P, Bähr W, Schilli W:
Versorgung der komplexen infizierten Unterkieferfraktur mit dem THORP-System - eine prospektive Studie.
In: Schwenzer, N. (Hrsg.): Fortschr Mund-Kiefer-Gesichts-Chir XXXXI.
Georg Thieme, Stuttgart, 1996

20.2 Chapters in Books

Bähr W:
Kieferkammaugmentation mit mikroanastomosierter Fibula.
In: Schmelzle, R., Bschorer, R. (Hrsg.): Plastische - und Wiederherstellungschirurgie.
Unimed Verlag, Lorch, 146-251, 1996

Bähr W, Wächter R, Stoll P:
Morbidität der Spenderegion nach Entnahme gefäßgestielter Fibulatransplantate.
In: Berghaus A. (Hrsg.): Plastische - und Wiederherstellungschirurgie.
Einhorn-Presse Verlag, pp.239-242, 1996

Bähr W, Hassel J, Stoll P, Wächter R:
Unterkieferrekonstruktion mit dem "Fibula-doppeltransplantat".
In: Berghaus, A. (Hrsg.): Plastische und Wiederherstellungschirurgie.
Einhorn-Presse Verlag, pp.444-445, 1996

Buitrago-Téllez CH, Wächter R, Gufler H, Beschnidt M, Stoll P, Langer M:
Reproducible 3D-CT of the Maxillofacial Complex for Preoperative Planning.
In: Lehmke, H.U., Vannier, M.W., Inamura, K., Farman, A.G. (Eds): Computer Assisted Radiology.
Elsevier Amsterdam - Lausanne - New York - Oxford - Shannon - Tokyo, 975-980, 1996

Düker J:
Beiträge zum „Röntgenbild-Atlas"
Thema:
Lippen-Kiefer-Gaumenspalte
Hyperplasie des Gelenkfortsatzes
Lokalisation eines verlagerten Eckzahnes
Verbundodontom, komplexes Odontom
Follikuläre Zyste
Linguale Exostosen
Pseudozyste der Kieferhöhle
Metastasen eines Prostatakarzinoms
Kieferhöhlenentzündung
Verlagerter Weisheitszahn
Lokalisation des Foramen mentale
Radikuläre Zyste
Die Quintessenz 1996

Fabinger A, Röckl J:
Psychosomatische Störungen und ihre Erkennung.
In: Sergl, H.G. (Hrsg.): Psychologie und Psychosomatik in der Zahnheilkunde.
Urban und Schwarzenberg, München 1996, 153 -186.

Pelz K, Otten J-E:
Erregerspektrum bei odontogenen Infektionen.
In: Luckhaupt, H., Hildmann, H., Opferkuch, W. (Hrsg.): Mikrobiologische Erkrankungen im HNO-Bereich.
SMV Gräfelfing, 64-71, 1996

Stoll P, Wächter R:
Wirksamkeit und technische Bedeutung von Rückhaltesystemen aus der Sicht des Mund, Kiefer- und Gesichtschirurgen.
In: Kuner, E.H., Schlickewei, W. (Hrsg.): Verletzungsschutz durch Airbag.
Hefte zur Unfallchirurg., 107-117, Springer Berlin, Heidelberg, New York, 1996

Stoll P, Wächter R, Borkhart H:
Tierexperimentelle Studie zur Beeinflussung der Durchblutung von Rundstiellappen mit Kalziumantagonisten und Tetrachlordecaoxid.
In: Schmelzle, R. (Hrsg): Plastische und Wiederherstellungschirurgie.
Einhorn Verlag, Reinbek, 18-26, 1996

Wächter R, Bähr W, Stoll P, Schilli W:
Gefäßgestielte und freie Knochentransplantate in Kombination mit dentalen Implantaten.
In: Berghaus, A. (Hrsg.): Plastische- und Wiederherstellungschirurgie.
Einhorn Verlag, Reinbek, 249-255, 1996

Wächter R, Stoll P, Schilli W:
Auswirkungen der Strahlentherapie auf die Weichgewebe nach alloplastischer Rekonstruktion des Unterkiefers.
In: Schmelzle, R. (Hrsg): Plastische und Wiederherstellungschirurgie.
Einhorn Verlag, Reinbek, 423-432, 1996

Wächter R, Bähr W, Stoll P:
Die primäre Unterkieferrekonstruktion mit dem THORP^{R}-System.
In: Berghaus, A. (Hrsg.): Plastische- und Wiederherstellungschirurgie.
Einhorn Verlag, Reinbek, 435-443, 1996

1997

Original Publ.

Alt K W, Jeunesse C, Buitrago-Tellez C, Wächter R, Boes E, Pichler S L:
Evidence for stone age cranial surgery.
Nature 387: 360, 1997

Buitrago-Tellez C, Zollikofer C P E, Cantini J L, Gufler H, Kimmig M, Stoll P, Langer M, Matter P:
Preoperative planning of complex craniofacial fractures.
Dialogue 10: 18-19, 1997

Eufinger H, Gellrich N-C, Sandmann C, Dieckmann J:
Descriptive and metric classification of jaw atrophy. An evaluation of 104 mandibles and 96 maxillae of dried skulls.
Int J Oral Maxillofac Surg 26: 23-28, 1997

Freidl S, Gellrich N-C, Zerfowski M, Philippou S:
Das aggressiv wachsende Hämangioperizytom im Bereich des Gesichtsschädels.
Mund Kiefer Gesichtschir 1: 179-181, 1997

Gellrich N-C, Gellrich M-M, Zerfowski M, Eufinger H, Eysel U T:
Klinische und experimentelle Untersuchung zur traumatischen Sehnervenschädigung.
Der Ophthalmologe 94: 807-814, 1997

Körner T, Schmelzeisen R, Tschernitschek H:
Kieferklemme - ausgelöst durch Vergrößerung des Processus coronoideus mandibulae. Dtsch Zahnärztl Z 52: 558-560, 1997

Lauer G, Otten J-E:
Kultivierung von Gingivakeratinozyten auf permeablen Membranen: Simulation der Funktion des Mundhöhlenepithels.
Mund Kiefer Gesichtschir 1: 35-38, 1997

Lauer G, Otten J-E, Schilli W:
Modifikationen in der Kultivierung von Gingivakeratinozyten.
Mund Kiefer Gesichtschir 1: 31-34, 1997

Lindner U K, Oehm V:
Die Magie des Impact Factors - Enttarnung eines Phänomens.
Rechtsmed 7: 35-36, 1997

Onizawa K, Schmelzeisen R, Berens von Rautenfeld D, Schelomenzew J:
Micro-anatomy of primary lymphatics in oral mucosa: a scanning electron microscopic study.
Br J Oral Maxillofac Surg 35: 177-179, 1997

Schierle H P, Schmelzeisen R, Rahn B, Pytlik C:
One- or two-plate fixation of mandibular angle fractures?
J Cranio Maxillofac Surg 25: 162-168, 1997

Schierle H, Schmelzeisen R, Husstedt H, Schliepake H:
Gesichtssymetrie nach gefäßgestieltem Muskeltransfer. Zusätzliches Kriterium zur Erfolgsbeurteilung bei der Versorgung langbestehender Fazialisparesen.
Mund Kiefer Gesichtschir 1: 153-156, 1997

Schliephake H, Redecker K, Schmelzeisen R, Maschek H:
Zytokine und Zytokinrezeptoren in der Mundschleimhaut immunsupprimierter Patienten. Mund Kiefer Gesichtschir 1: 111-114, 1997

Schön R, Schmelzeisen R, Shirota, Ohno, Michi:
Tissue reaction around miniplates used for the fixation of vascularized iliac crest bone grafts.
Oral Surg Oral Med Oral Pathol Oral Radiol 83: 433-440, 1997

Theegarten D, Barfuß A, Gellrich N-C, Philippou S:
Expression der Proliferationsmarker PCNA und MIB 1 bei dem verrukösen Plattenepithelkarzinom der Mundhöhle.
Mund Kiefer Gesichtschir 1: 133-137, 1997

Wächter R, Lauer G, Schilli W:
Implantatretention von Orbita-Defekt-Epithesen-Allgemeinklinisches Vorgehen und Besonderheiten nach Bestrahlung.
Stomatol 94: 219-231, 1997

Wertzel H, Wagner B, Stricker A, Swoboda L, Hasse J, Lange W, Freudenberg N:
Experimental gluing of lung parenchyma in rats.
Thorac Cardiovasc Surg 45: 83-87, 1997

20.3 Chapters in Books

Bähr W, Blume O, Schilli W, Schmelzeisen R:
Knochenangebot des Tibiakopfes zur autologen Transplantation im Mund-Kiefer-Gesichtsbereich.
Plastische und Wiederherstellungschirurgie.
Einhorn Presse, Reinbek, Hrsg: Rudolph H, 1997

Bähr W, Rosbander R, Gutwald R, Scholz C:
Ein neues Anastomosesystem zur Vereinigung von Gefäßstümpfen - Tierexperimentelle Studie.
Plastische und Wiederherstellungschirurgie.
Einhorn Presse,Reinbek, Hrsg: Rudolph H, 328-331, 1997

Blume O, Bünz M, Bähr W, Schilli W, Schmelzeisen R:
Quantitative und qualitative Analyse der interforaminären Unterkieferspongiosa
Plastische und Wiederherstellungschirurgie.

Einhorn Presse, Reinbek, Hrsg: Rudolph H, 1997

Blume O, Schilli W, Krekeler G:
Preparation of the implant site by local augmentation with alloplastic resorbable material.
3rd Asian congress on oral and maxillofacial surgery.
Monduzzi Editore, Bolongna/Italy, 487-492, 1997

Blume O, Schwarz U, Fabinger A:
Beispiel für eine komplexe Versorgung einer kombinierten Defektfraktur im Oberkiefer und Unterkiefer.
Plastische und Wiederherstellungschirurgie.
Einhorn Presse, Reinbek, Hrsg: Rudolph H, 1997

Eufinger H, Wehmöller M, Gellrich N-C, Reinert S, Machtens E:
Individual prostheses and resection templates for mandibular resection and reconstruction - introduction of a new technique.
Computer assisted radiology and surgery.
Elsevier, Hrsg: Lemke H U, Vannier M W, Inamura K, 701-706, 1997

Gellrich N-C, Zerfowski M, Eufinger H, Reinert S, Eysel U T:
Tierexperimentelle Untersuchung zur neuronalen Degeneration nach zweizeitigem kalibrierten Sehnervtrauma.
Orbitachirurgie.
Einhorn Presse, Reinbek, Hrsg: Rochels u. Behrendt, 1997

Hausamen J-E, Schmelzeisen R:
Traumatologie der Schädelbasis.
Einhorn Presse, Reinbek, Hrsg: Hausamen J-E, Schmelzeisen R

Otten J-E:
Infektionen im Mund-Kiefer-Gesichtsbereich.
Surgical infections.
Urban & Schwarzenberg, München New York, Hrsg: Farthmann E, 1997

Otten J-E:
Erregerspektrum bei odontogenen Infektionen.
Mikrobiologische Erkrankungen im HNO-Bereich.
SMV, Gräfelfing, Hrsg: Luckhaupt H, Hildmann H, Opferkuch W, 1997

Pistner H, Gutwald R, Schwartz G, Mühling J, Reuther J:
Biodegradierbare Implantate und Materialien. Vollständige Biodegradation von spritzgegossenen Polylactid-Osteosynthesematerialien in Hart- und Weichgewebe in vivo im Langzeitversuch bis zu 36 Monaten.
Springer, Berlin Heidelberg, Hrsg: L. Claes, A. Ignatius, 265: 133-145, 1997

Reinert S, Gellrich N-C, Machtens E:
Ergebnisse der Sofortrekonstruktion von Knochendefekten im Schädelbasisbereich mit Titan- oder Vitalliummesh.
Orbitachirurgie.
Einhorn Presse, Reinbek, Hrsg: Rochels u. Behrendt, 1997

Schmelzeisen R, Gellrich N-C:
The primary management of soft tissue trauma.
Maxillofacial surgery.
Churchill Livingstone, Hrsg: Ward Booth P, Hausamen J-E, Schendel S, 1997

Schmelzeisen R, Gellrich N-C, Schön R:
Reconstruction of the facial nerve.
Oral and maxillofacial surgery.
Churchill Livingstone, Hrsg: Ward-Booth P, Hausamen J-E, 1997

Stoll P, Wächter R, Blume O:
Die lokale Anwendung von Batroxobin bei antikoagulierten Patienten.
Quintessenz 48: 411, 1997

Stoll P, Bähr W, Prein J:
Mandibular fractures.
Manual of internal fixation in the facial skeleton.
Springer, Berlin Heidelberg New York, Hrsg: Prein J, 1997

Stoll P, Bähr W, Wächter R:
Die Wertigkeit des Fibulatransplantates bei der Rekonstruktion von Unterkieferdefekten.
Microsurgery 95, Hrsg: Schumann D, 1997

Stoll P, Prein J, Bähr W, Wächter R:
Considerations in the fixation of bone grafts for the reconstruction of mandibular continuity defects.
Cranio-maxillofacial reconstructive and corrective bone surgery.
Springer, Berlin Heidelberg New York, Hrsg: Greenberg A, Prein J, 1997

Stoll P, Stark B, Wächter R:
Gleichzeitige Deckung intra - und extraoraler Defekte.
Plastische und Wiederherstellungschirurgie.
Einhorn Presse,Reinbek, Hrsg: Rudolph H, 1997

Wächter R, Gutwald R, Seper L, Schilli W:
Festigkeit der Verankerung unterschiedlich dimensionierter Osteosyntheseschrauben - klinische Drehmomentmessungen.
Plastische und Wiederherstellungschirurgie.
Einhorn Presse, Reinbek, Hrsg: Rudolph H, 1997

Wächter R, Gutwald R, Wilde F, Schilli W:
Biomechanische in-vitro-Untersuchungen zur Primärstabilität von Mini-Titanosteosyntheseschrauben mit glatter und rauher Oberfläche.

Plastische und Wiederherstellungschirurgie.
Einhorn Presse, Reinbek, Hrsg: Rudolph H, 1997

Wächter R, Stoll P, Schilli W:
Auswirkungen der Strahlentherapie auf die Weichgewebe nach alloplastischer Rekonstruktion des Unterkiefers. Plastische und Wiederherstellungschirurgie.
Einhorn Presse, Reinbek, Hrsg: Schmelzle R, 423-432, 1997

1998

Original Publ.

Feller K-U, Herzmann K, Schimming R, Eckelt U:
Die Gaumennahtsprengung nach Glassman – Erfahrungen bei mono- und bimaxillären Dysgnathieoperationen.
Dtsch Z Mund Kiefer GesichtsChir 2: 26-29, 1998

Otten J-E, Drews M, Pelz K, Lauer G:
Odontogene Infektionen - ein systemisches Risiko?
Dtsch Zahnärztl Z 53: 85-88, 1998

Otten J-E, Drews M, Pelz K, Lauer G:
Odontogene Infektionen - Systemisches Risiko.
Dtsch Zahnarztl Z 53: 85-88, 1998

Schimming R, Hlawitschka M, Haroske G, Eckelt U:
Prognostic relevance of DNA image cytometry in oral cavity carcinomas.
Analyt Quant Cytol Histol 20: 43-51, 1998

Schmelzeisen R, Schön R:
Microvascular reanastomosed allogenous iliac crest transplants for the reconstruction of bony defects of the mandible in miniature pigs.
Int J Oral Maxillofac Surg 27: 377-385, 1998.

Schmelzeisen R, Lauer G, Wichmann U:
Endoskopgestützte Fixation von Gelenkfortsatzfrakturen des Unterkiefers.
Mund Kiefer Gesichtschirurgie 2, 1998

Schmelzeisen, R, Schliephake H:
Interdisciplinary microvascular reconstruction of maxillary, midfacial and skull base defects.
J Cranio Maxillofac Surg 26: 1-10, 1998

Schmelzeisen R, Schön R:
Microvascular reanastomosed allogenous iliac crest transplants.
Int J Oral Maxillofac Surg 27: 377-385, 1998

20.3 Chapters in Books

Drews M:
Parasitologie.
Lexikon der Biologie in 15 Bänden.
Spektrum Akademischer Verlag Heidelberg 1, 1998

Gellrich N-C, Lauer G, Schön R, Schmelzeisen R:
Der posterior gestielte muskulokutane Platysmalappen (PMP) als Alternative zur intraoralen Deckung.
Plastisch-rekonstruktive Chirurgie - Narben - Endoskopische Techniken - Innovationen, Hrsg: Hübner H, Press UP, Einhorn Presse Verlag 202–205, 1998

Lauer G:
Vorhersagbarkeit und Quantifizierung von Narbenentwicklungen im Gesichtsbereich.
Plastisch-rekonstruktive Chirurgie - Narben - Endoskopische Techniken – Innovationen, Hrsg: Hübner H, Press UP, Einhorn Presse Verlag 62–65, 1998

Schön R, Schmelzeisen R, Fabinger A:
Lebensqualität und subjektive Bewertung nach mikrochirurgischer M. gracilis-Transplantation bei langbestehender N. facialis-Parese.
Die hintere Schädelgrube.
Einhorn Presse, Reinbek, Hrsg: Lanksch W, Lehmann T, 103-109, 1998

Stoll P:
Indications and technical considerations of different fibula grafts.
Cranio-maxillofacial reconstructive and corrective bone surgery.
Springer, Berlin Heidelberg New York, Hrsg: Greenberg A, Prein J, 1998

Stoll P:
Radiation therapy and its effect on mandibular bone healing and rigid fixation.
Cranio-maxillofacial reconstructive and corrective bone surgery.
Springer, Berlin Heidelberg New York, Hrsg: Greenberg A, Prein J, 1998

20.4 Grants 1997

DM	70.000,-	Prof. Schilli Knochenforschung
DM	300.000,-	Drs. Gellrich/Schramm Neuronavigation
$	90.000,-	Dr. Schön Distraktoren für Forschung
SFR	67.000,-	Dr. Schön Distraktionsprojekt
DM	40.000,-	Prof. Schmelzeisen Industrie für Dokumentationsprojekt
DM	15.000,-	Prof. Schmelzeisen Industrie für Dokumentationsprojekt

E. Research Centre of Experimental Dentistry

Representative: Prof. Dr. H. F. Kappert
e-mail: kappert@zmk2.ukl.uni-freiburg.de

20.1: 2
20.2: 3
20.3: 7
20.4: 13
20.5: 17

Visitors Comments

Each department in the school has its own separate very well equipped research laboratories. As a result a broad range of research activities takes place in the school as explained in the number of publications from the staff in the departments. However, time for research by senior staff is limited to 15% of their commitment which results in limited opportunity to use the facilities. Junior staff only have specific time for research outside the semester, 3 sessions per week, or have to carry it out at weekends.
The state does provide matching funds for grants received from foundations, and as a result of publications. There are two full time staff positions in research one in oral biology and one in the unit of experimental dentistry.

Section 21: Quality Development

Visitors Comments
There was no specific quality assessment programme
Recently the Dean of the Medical Faculty of the Freiburg University has launched a programme that will stimulate the involvement of students in the evaluation of education. Student evaluation is to be carried out in different courses. The clinical part of the dental programme will be evaluated this semester (winter 98/99).

Faculty and staff development is mainly carried out within the environment of the departments. There is no formal organised induction training for junior staff members on educational methods and theory. Junior staff gain experience in teaching through participation. The visitors considered that time and activities for on-going personal development and appraisal programmes should be considered.

Section 22: Overall Comments on the School

Name: Prof. Dr. J. R. Strub
e-mail: weber@zmk2.ukl.uni-freiburg.de
fax: + 49 7 61 2 70 - 4925

Section 22

Innovations

Education

Undergraduate

- Less students (better quality)
- Problem-based learning
- Evaluation of teachers (students)
- Reconstruction of preclinical lab (2000)
- New building 200/2001 (teaching)

Postgraduate

- Teaching also by part-time faculty members

Research

- New building 2000/2001 (research
- Increased financial support (contract companies – dental school)

Intramural Practice

- Attract more foreign patients (no financial limit)

Section 22

Weaknesses

Education

Undergraduate

- Too may students per faculty members
- Shortage of patients (easy cases)
- Preclinical program: simulation of clinical environment not optimal
- Too many working hours (students)

Postgraduate

- Not enough faculty members (part-timers are missing)
- Programs missing: dental materials, implantology, community dentistry, geriatric dentistry, etc.)
- No master science program

Research

- Not enough time (too much teaching) for faculty members

Inrteamural Practice

- Limitations (insurance system)

Section 22

Strengths

Education

Undergraduate

- Treatment of patients (0,5 day/week)

Postgraduate

- 7 Programs (certificate)

Research

- Facilities OK
- Equipment OK

Intramural practice

- Facilities, equipment, personnel OK

Financial Agreement number: 39501-CP-2-98-1-IE-ERASMUS-ETN

Section 22: Executive Summary

1. Aims and Objectives of the Curriculum

Aims and objectives are formally outlined in the laws and regulations of the Federal Republic of Germany.

2. Programme Characteristics

The educational programme is structured according to subjects which are mandatory and are to be examined according to the laws of the Federal Republic of Germany. Thus, there are two parts of the curriculum; pre-clinical and clinical which are predetermined in a specific sequence.

The basic biological sciences and the pre-clinical skills parts of the curriculum, which are theoretically and practically well covered are delivered mainly during the first 2.5 years of the programme. With the exception of one dissection course in anatomy, the number of hours devoted to basic biological sciences are the same for the dental and medical undergraduate pogrammes. The second part of the programme consists of clinical training and patient care and takes place during the final 2.5 years of the programme.

The overall facilities in the school are excellent.

3. Educational Approaches (Teaching Methods)

The didactic parts of the programme are mainly lectured-based. The lectures are interspersed with the clinical and practical training. Within the clinical part of the programme (last 2.5 years) a typical student day in the dental hospital will start at 08.00 and finish at 19.00 .

4. Examinations

The final examinations, which are regulated in the laws of the Federal Republic of Germany and cover specific topics, consist of oral and practical exams and case reports. The students may be assessed in individual components of the programme during the semesters primarily through written tests, and either MCQ or short essay questions. Students are asked to write and defend several case presentations as part of continuous assessment. No external examiners take part in the examinations.

5. Students

<u>Skills</u>

The students psycho –motor skills and their practical training are developed in the skills laboratory from the first year. Written and oral communication skills are tested using case presentations. The students are exposed to the practical use of computers in the clinic through their use of digital radiographic systems and the hospital documentation system. Their experience with computers as an aid to learning is limited.

Students Facts

There are 40-45 students per semester and they are admitted twice a year. The average age is approximately 20 years. There are 40% female students and this trend in increasing. The student drop-out rate is very low.

6. Staff

The student-staff ratio in the pre-clinic is 20:1 and in the clinic 6:1. In the clinic the senior and the junior students form two person teams assisting each other in treating patients. These students work without nursing assistance.

7. International Exposure

The dental school is part of the Socrates program.
However, very few students have taken the opportunity to participate in this programme or other international networks, primarily because of the pressure to complete the course requirements.

8. Quality Assurance and Development

There is a system for evaluation of courses, lectures and academic staff which will be implemented this semester. There is no specific plan for quality development of the education system.

9. Overall Statement

STRENGTHS

- Strong basic biological science programme.
- Intensive pre-clinical training in psychomotor skills.
- Well organised and systematic training programme in clinical skills.
- Clinical, teaching, and research facilities of a very high standard.
- Modern, well maintained equipment appropriate for quality patient care.
- Departments are autonomous, integrated units with direct funding which allows for strong internal control of their activities.
- Mature, professional student body with very positive attitude to their training and education in the School.
- The involvement of graduate students in the teaching of undergraduate students and the team approach in clinics creates a positive learning environment.
- Graduate clinical programmes continue to develop.
- Young highly motivated, committed and enthusiastic faculty.
- Research output is strong and is developing an international reputation.

WEAKNESSES

- The curriculum is strongly controlled by Federal regulations, which reduces the flexibility of staff to modify it.
- There is no facility, such as a curriculum committee, to monitor, evaluate and adjust the curriculum.
- There is lack of time for non-regulated courses such as, epidemiology, statistics, public health, prevention, communications, psychosocial skills and ethics.
- Facilities for small group teaching are limited.
- There is only a limited exposure to international influences in the undergraduate programme.
- Exposure of students to the clinical situation comes late in the curriculum.
- The clinical programme, combined with lectures in the final two and a half years, is too intensive for staff and students.
- There is insufficent time for extramural activities.
- There is limited availability of patients in some departments.
- Training in educational methods for staff is not an ongoing part of the staff development.
- Access to computer assisted learning is limited.

Innovations

- The practice of a junior and senior students assisting and learning from each other in the clinic.
- Frequent oral examinations as means of student assessment and immediate feed back.
- Continuity in the use of materials, equipment and techniques from the pre-clinical to the clinical part of the programme.
- Restricted 5 and 10 year contracts for majority of faculty allow for movement and introduction of new faculty.
- Evaluation of faculty and courses by students.
- Many students commence doctor med. dent. programme before completion of undergraduate training.
- Graduate students are faculty members.

Broad Recommendations

- Modify curriculum with clear objectives placing more emphasis on outcomes and clinical competence.
- Reduce intensity of current programme and allow for new subjects.
- Introduce subjects areas such as statistics, ethics, research methodology, etc.
- Integrate preventive philosophy throughout the curriculum.
- Clinical experience of students to be introduced at an earlier stage of the programme.
- Stimulate the use of international literature.
- Increase availability of research time for faculty and students.
- Initiate quality assurance programme.

Prof. Madeleine Rohlin,
Chairperson of Dented Visiting Team

Department of Radiology
Centre for Oral Health Sciences
Malmo University
Carl Gustafs vag 34
SE-21321 Malmo
Sweden

Prof. John Clarkson, Rapporteur:
DENTED Visiting Team

Department of Public & Child Dental Health,
Dublin Dental Hospital
School of Dental Science
Trinity College
Dublin Ireland

Prof. Tivadar Zelles,
Member of Dented Visiting Team

Department of Oral Biology
Semmelweis University of Medicine
H-1089 Budapest,
Nagyvarad ter 4
Hungary

Doukoudakis, Prof. Astiros
Member of Dented Visiting Team

Deaprtment of Prosthodontics,
School of Dentistry
University of Athens
2 Thivon Street
Goudi GR 11527
Greece

Dr. William Allen,
Member of Dented Visiting Team

British Dental Association
Longahre
55 Church Road
WIckham Bishops
Wickham
Essex CM8 3JZ
United Kingdom

Frieburg DENTED Site Visit

September 1999

Signed:_____
Prof. Madeleine Rohlin,
Chairperson of Dented Visiting Team

Signed:_____
Prof. John Clarkson,
Rapporteur: DENTED Visiting Team

Department of Radiology
Centre for Oral Health Sciences
Malmo University
Carl Gustafs vag 34
SE-21321 Malmo
Sweden

Department of Public & Child Dental Health,
Dublin Dental Hospital
School of Dental Science
Trinity College
Dublin Ireland

Frieburg DENTED Site Visit

September 1999