

DentEdEvolves Visit



School of Dental Surgery Paris-5 University Assistance Publique-Hôpitaux de Paris France

January 20 – 24, 2001

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School of Dental Surgery

Paris-5 University Assistance Publique – Hôpitaux de Paris

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PART I - INFORMATION FOR DENTED VISITORS

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Section 1: Introduction

1.1 Background

The School of Paris-5 University is one of the sixteen French Dentistry Schools. It belongs to the University René Descartes, Paris-5 which comprises the following Schools:

- School of Law
- School of Psychology
- School of Humanities and Social Sciences
- School of Biomedical Sciences
- Department of Forensic Medicine and Medical Law
- Mathematics Training and Research Unit
- 3 Schools of Medicine
- School of Pharmacy
- IUT (Academic Institute of Technology)

In France, the dental art has only been acknowledged as a professional skill for two centuries. In 1699, royal edicts put dentists, along with doctors and surgeons, under the authority of the King's First Surgeon. The 17th century was a brilliant era for French odontology since it witnessed the publication of important works by Fauchard, Bunon, Bourdet and Jourdain.

However, during the French Revolution, health reforms left dentists behind, whereas doctors and surgeons became health officers. Throughout the 19th century, dentists-doctors (who had become health officers) and mere dentists (who simply paid a trading license) disagreed with one another since the former wanted dentistry to become more medical and the latter wanted it to become autonomous.

At the end of the 19th century, schools were created that specialised in dentistry, and statutes for dentists were promulgated. In 1880, the Parisian Dentists Circle started the Dental School of Paris, 37 rue Rochechouart. In 1884, the Dental Employers' Federation started the Odontologic Institute, rue de l'Abbaye. In 1889, the Dental School of Lyon was created. Last but not least, a great medical law, which had been under discussion since 1880, was passed on November 30, 1892: it created a new title, that of dental surgeon. Conventions were then signed between Schools of Medicine and Dental Schools until the State took over the curriculum.

In 1909, a decree set a five-year curriculum for dentists.

In 1965, a decree was passed. It created the National Schools for Dental Surgery (ENCD = Écoles Nationales de Chirurgie Dentaire) along with the Dental Research and Teaching Hospital

Complexes, which are used for the clinical courses (CSERD = Centres de Soins d'Enseignement et de Recherche Dentaires). The first year of the curriculum is common to medical and dental students.

Montrouge

In 1968, the National School for Dental Surgery (ENCD) of Paris was created. It moved to 1, rue Maurice Arnoux in Montrouge in buildings that are shared with the École Normale Supérieure (a *grande école* for training teachers).

The aforementioned CSERD is made up of four clinics which are located in:

- **Colombes** 92700 Hôpital Louis Mourier 178, rue des Renouillers
- **Créteil** 94000 Hôpital Albert Chenevier rue de Mesly
- **Ivry** 94200 Hôpital Charles Foix 12, rue Fouilloux
- **Paris** 75009 Centre Jean Délibéros 45, rue de la Tour d'Auvergne (connected with the Hôtel-Dieu Hospital).

The ENCD of Paris then became a university department and is now part of the Paris-5 University.

In 1971, restricted admission was passed. The number of applicants in odontology was of 290 in 1971, 190 in 1980, 121 in 1985 and it has been of 90 since 1991.

The dental curriculum was reformed through a decree passed on September 27, 1994. Since then, post-graduate studies have been created. Moreover, existing subjects have been reorganised, new and mandatory subjects have been introduced, such as foreign languages, law or economics for instance, and clinical training has been increased.

Research

As soon as it was created, the dental university department gave a prominent place to biomedical research.

Basic clinical research can be done by teachers and students in:

- the oral and bone environment biology and biomaterials laboratory
- This laboratory is associated to two D.E.A.s (post-graduate diploma taken before completing a PhD).
- It is made up of three groups:
 - the oral biochemistry group
 - the extracellular matrix and biomineralisation group
 - the bone physiopathology group.

Research can also be done in the following university laboratories:

- the dental materials group

- the pathological anatomy laboratory
- the applied orofacial biology laboratory
- the medical electronics and behavioural neuropharmacology laboratory
- the radiology, biophysics and radioelements laboratory
- the oral public health laboratory

Moreover these laboratories work in close collaboration with French public research institutions such as the INSERM (British equivalent: MRC; American equivalent: NIH), the C.N.R.S. (British equivalent: SERC; American equivalent: NSF), the Pasteur Institute, the Collège de France and with private companies as well.

1.2 The primary functions of the institution are:

- Clinical training and education of undergraduate dental students subject to the standards set by the Department of Higher Education and Research, the National Commission of Dental Education and the EU Dental Directives.
 - Training of specialists in Orthodontics
 - Continuing education for dental practitioners
 - Research
 - Patient Services

1.3 Curriculum

Since 1995, major curriculum modifications have been implemented in France. The first year is common to both medical and dental schools and leads to an admission test with a success rate of 15%. The dental student is then engaged in a five-year dental curriculum (year 2 to year 6), as opposed to the previous programme (year 2 to year 5).

Reinforcement of teaching of both medical and dental basic sciences, medical rotations in several hospital departments, internships in dental practices and the 6th year – the comprehensive care of the patient is the focus – are the most important modifications of the new programme. Basically, this new curriculum emphasises initiation to research, links with medical training and offers broader clinical experience.

Organisation chart of the curriculum:

1 st year	1st Cycle P1	1st year, 1st cycle of medical and dental studies		
2 nd year	P2	Introduction to nursing. 2nd year, 1st cycle of dental studies Basic sciences + introduction to the dental sciences, foreign languages Option and electives Introduction to the dental clinics	competitive entry examination	Medicine
3 rd year	Middle Cycle D1	1st year, 2nd cycle of dental studies Basic sciences + introduction to the dental sciences, foreign languages Option and electives Introduction to the dental clinics		
4 th year	D2	2nd year, 2nd cycle of dental studies Clinical dental sciences + optional and electives Dental and non-dental clinical training:		
5 th year	D3	3rd year, 2nd cycle of dental studies Clinical dental sciences + optional and electives Dental and non-dental clinical training: Introduction to the dental practice		
6 th year	Final honors T1	Short cycle: T1 Mandatory and optional modules Clinical work: In dental clinics In non-dental clinics Thesis	Long cycle - Internship 6 semesters after selection - advanced clinical training - Assessed as an advanced studies certificate	
Doctor in Dental Surgery graduation.				

Post graduate Basic sciences 1 year Clinical sciences 1 year	Specialisation in Orthodontics 4 years	Post-doctoral degree in Oral surgery 4 years	Post-doctoral degrees -Periodontology (2 years) -Gnathology (2 years) -Geriatric dentistry (2 years) -Paediatric dentistry (3 years) -Prosthodontics (2 years) -Continuing education (3 years) -Implants (2 years) -Anatomy (2 years)	PhD degrees 4 years
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Throughout the curriculum, the comprehensive care of the patient is persistently taken into account. To that effect, the Paris-5 University faculty has decided to promote one method of teaching over another. The various possible profiles of patients are considered, thus making it possible for “specialities” to emerge, which are taught in “modules”. This new organisation has replaced the former, which consisted in the traditional teaching of separate dental matters (prosthetics, periodontology, endodontics, conservative odontology, pedodontics, etc.). Some examples of “modules” are Stomatognathic function, Prevention of oral diseases, Full Denture, Tooth Pathology and Treatment, Tooth Loss Therapy, etc. Professors of different dental specialities work together within a same module.

General aims

- To provide future dentists with an ethical and suitable scientific foundation
- To promote and develop clinical competence in primary oral health care and prevention
- To provide an environment that encourages self-sufficiency in learning, scientific analysis, moral values and recognition of social responsibilities
- To ensure that the educational programme fulfils national and EU requirements.

General objectives

These are set out in detail under the different subject headings in section 5-16 inclusive.

Strengths of the curriculum

- Organised in multidisciplinary subjects according to patients and agreed by all
- Continuously under review
- Assessment methods complement educational objectives and methods

Weaknesses

- Difficulty in balancing integrated patient care with appropriate patient supply
- Assessment methods are still in the process of being introduced and refined: there is a lack of staff training
- We are supposed to be the biggest academic staff among the French dental schools. However, the institution is dramatically compartmentalised into five buildings. One is the academic setting, where students are taught theoretical and pre-clinical courses. The other four are the dental clinics, which are located in different places that are remote from the

academic building. The furthest is 20 kilometres away from Montrouge. Two of them are located about 15 kilometres away and the nearest is 8 kilometres away. Consequently, curricular implementation, research duties and dental service cause a considerable workload for all academic staff members. Moreover, the full time/part time faculty ratio is dramatically low in our School. This implies a reduced activity in continuing education and a lack of space for dental service, research and learning facilities.

- Lack of technicians. Our video equipment is not as profitable as it could be.

Innovations and Best Practices

- New assessment methods
- Physical facilities: the School is in the course of being refurbished since 1992
- Student evaluation of some courses
- Patient-centred student-oriented training/learning
- Lectures, pre-clinical work, treatment in the dental clinic related to a “ patient profile ” are integrated in a same module and often last one year.
- Development of information technology: our School has a website.
- International activities of undergraduate students, such as Socrates exchange programmes with Malmö (Sweden), Roma (Italy), Leuven (Belgium), Coimbra (Portugal) and student exchanges with Laval University (Canada). Academic staff exchanges with Denmark, Sweden, Ivory Coast, Lebanon, Morocco, Mexico, Canada, United States and San Domingo.
- Implementation of regular School development twice a year.

Plans for Future Changes

- A continuing training unit has just been set up. Its first aim is to elaborate a programme to associate practical operations with NICT (New Information and Communication Technologies) training elements. Such training elements can be found on the university department web site, mainly with regard to continuing education.
- To strengthen the exchanges we already have with other French (Clermont-Ferrand, Paris-7 University) or foreign Universities (Malmö University, Laval University).
- To strengthen School development.

The organisation of the new curriculum is appended below. The last year (6th Year or T1) will only be implemented next year. It will focus essentially on the comprehensive care of the patient, but the exact programme for this year has been yet been definitely decided.

First Year P1

Common with the first Year of medical studies

Subjects
Biophysics and Physics
Biochemistry and Chemistry
Cellular Biology and Molecular Biology
Law – Professional Ethics
Health Economy - Demographics
History of Medicine
Medical Sociology
Anatomy and Physiology
Biology of Development – Embryology - Histology

Second Year P2

MODULES	HEADS	L	TUT	LAB	EX.	Dur.Ex	Coef
General Anatomy and physiology	Dr. MAMAN	36		4	1	2	2
Oral Semiology		8					
General Anatomy and physiology		14					
Heart and Lungs Physiology		14		4			
Stomatognathic System Anatomophysiology	Dr. GAUDY	62	3	15	1	3	3
Cranio-facial Anatomy and Neuro-Anatomy		32	3	15			
Stomatognathic Physiology		16					
Gnathology		14					
English	Ms. BELIS	11	26		1	1h30	1
Dental Materials	Dr. ATTAL	13	4		1	1	1
Structure and features of dental materials		13					
Cariology	Dr. TOUMELIN	22	8+2°		1	2	2
Development and Growth	Pr. GOLDBERG	12		7	1	1h30	1
Embryology		12		7			
Immunity - Inflammation	Dr. CHARDIN	18	2	7	1	1	1
Organisation of the immune system		12		7			
Cells and molecules of Inflammation		6					
Review			2				
Oral environment	Dr. CHARDIN	56	9	24	1	3	3
(Introduction to the oral ecosystem)							
Dental Anatomy		19		21			
Dental Histology		8	3				
Histology of the periodontal tissues		8	3				
Biochemistry		8	2				
Immunity of mucous membranes		1					
Immunity of secretions		2	1				
Bacteriology	10		3				
Periodontology	Dr. BIGOT	8			1	1	1
Radiology-imagery-biophysics	Dr. PELLERIN	21		6	1	1	1
Restorative Dentistry	Dr. TRAMBA	14		33	1	1	1
Total		273	54	96	11	18	17
Optional	Dr. GUIVANTE	75					
English							
Information Technology							
Resuscitation							
Infection Control							
Electives							
Use of Scientific Literature							
Sports							
Pre-clinical training (75 hours)							

Third Year D1

MODULES	HEADS	C	TUT.	LAB.	EX.	Dur.Ex	Coef
Stomatognathic System Anatomophysiology	Pr. KNELLESEN	30	3*	9	1	2	2
Descriptive Anatomy		12	3*				
Neuromuscular Regulation		7					
Gnathology		11		9			
English	Mss BELIS	11	26		1	1h30	1
Dental Materials	Pr. DEGRANGE	18	2*	5	1	1h30	2
Development and Growth	Dr. DHUMEAUX	21		7	1	1H30	1
Orthodontics		13		5			
Embryology		5					
Pediatric Dentistry		3		2			
Infection/inflammation and Pain	Dr. LE MAY	30	10		1	2	2
Infection/inflammation/Pain		18					
Pharmacology		7					
Anesthesiology		5					
Endodontics and Conservative Dentistry	Pr. LASFARGUES	25	6	34	1	2	2
Conservative Dentistry		10	3	15			
Endodontics		15	3	19			
Periodontology	Pr. SAFFAR	11	10		1	1	2
Pathology and Surgery	Dr. WIERZBA	35		8	1	2	2
General Pathology		20					
Pathology and Oral Surgery		15		8			
Full Removable Prosthodontics	Pr. RIGNON-BRET	18		18	1	1	1
Partial Removable Prosthodontics	Pr. BUCH	17		20	1	1	1
Fixed Prosthodontics	Dr. GIROT	16		20	1	1	1
Radiology- medical image	Dr. PELLERIN	10	2*		1	1	1
Public Health	Dr. FOLLIGUET	16	1		1	1	1
Total		258	60	121	13	18h30	19
Optional	Dr. GUIVANTE	75					
Oral Ecosystem							
Resuscitation							
Technical issues in Prosthodontics							
Infection Control							
Electives							
Sports							
Therapy with tissular genome							
Pre-clinical training 75 hours							

Fourth Year D2

MODULES	HEADS	L	TUT	LAB	Ex	Dur.Ex	Coef
Dental Materials	Dr. SADOUN	11	2+1*	2*	1	1	1
Oral Cyto-Histo-Pathology	Pr. KAUELER	14	6		1	1	1
TMJ Disorders (1)	Pr. KNELLESEN	12		5	1	1	1
Community Dentistry	Pr. DETRUIT	20	5		1	1	1
Public Health		10	3				
Epidemiology		10	2				
Comprehensive Care	Pr. KNELLESEN	9	9		1	1	1
Clinical Examination		4	4*				
Pain, Practioner/patient relationship		5	5				
Endodontics and Conservative Dentistry	Pr. MELCER	18	1*	5	1	1	1
Pediatric Dentistry	Pr. WOLIKOW	20	5	2	1	1h30	2
Orthodontics	Pr. SKINAZI	16		8	1	1	1
Periodontology	Pr. BRION	10	10		1	1	1
Oral Pathology and Surgery	Pr. LESCLOUS	30			1	2	2
Oral Surgery		7					
Oral Pathology		7					
Oral Dermatology		6					
Drugs Administration		10					
Medical Pathology and odontology	Pr. POIDATZ	21	5		1	1	1
Relationship between medicine and odontology		6	5				
Medical and Surgical Pathology		15					
Full Removable Prosthodontics	Pr. RIGNON-BRET	15		10	1	1	1
Partial Removable Prosthodontics	Pr. BUCH	10		7	1	1	1
Fixed Prosthodontics	Dr. GIROT	12		18	1	1	1
Public Health	Dr. FOLLIGUET	18	3		1	1	1
Preventive Strategies		18	3				
TOTAL		236	37	57	15	16h30	17
Optional Programme:	Dr. GUIVANTE	75					
English							
Multidisciplinary approach of complex prosthetic treatments							
Resuscitation							
Introduction to research in odontology							
Advanced Conservative and Endodontic treatment							
Nutrition							
Electives Sports							
Clinical work	450 hours						
Hospital with non-dental setting	100 hours						

Fifth Year D3

MODULES	HEADS	L	TUT	LAB	Ex	Dur.Ex	Coef
Anatomy	Dr. GAUDY	6		6			
TMJ Disorders (2)	Pr. KNELLESEN	10			1	1	1
Comprehensive Care	Pr. KNELLESEN	8	7*				
Orthodontics	Pr. GUGNY	17		8	1	1	1
Geriatric Dentistry	Pr. DETRUIT	8			1	1	1
Pediatric Dentistry	Pr. WOLIKOW	20	6		1	1	1
Periodontology	Dr. DANAN	12	14		1	1	1
Oral Pathology and Surgery	Dr. MAMAN	37		3	1	2h30	2
Oral Pathology		10					
General and surgical Pathology		10					
Oral Oncology		6					
Oral Dermatology		5					
Anesthesiology and Resuscitation		6		3			
Pharmacology	Dr. ARRETO	10			1	1	1
Full Removable Prosthodontics	Pr. RIGNON-BRET	15			1	1	1
Fixed Prosthodontics	Dr. GIROT	10			1	1	1
Implants	Dr. GIROT	20		4	1	1	1
Maxillo-facial Prosthodontics	Dr. EID	15			1	1	1
Edentulous Patients	Pr. BUCH		4*				
Total		188	31	21	11	12h30	12
Optional Programme	Dr. GUIVANTE	75					
Multidisciplinary approach of treatments							
Complex Prosthodontics							
Resuscitation							
Sports Odontology							
Electives							
Internship introduction							
Global treatment of severe parodontal diseases							
Preparation for Professional practice	100 hours						
Clinical work	650 hours						
* Multidisciplinary tutorial							
Certificate of clinical and comprehensive treatment	Pr. KNELLESEN				written oral	Dur.Ex	Coef
						2 20mn	1 1

Sixth Year T1

SEMINARS	Heads	Workshops
<p>Professional practice: 60 hours G.P. as player in community health Computers and dental practice Setting up a dental practice Professional risks Dental materials, how to choose ? Professional integration and finance Forensic dentistry Responsibility – Ethics – Bioethics Dental practice management Review</p>	Dr. FOLLIGUET	Continuous evaluation
<p>Multidisciplinary module: 50 hours Aesthetics in dentistry Treatment on patient with severe periodontal disease Dental trauma Edentulous patient with cranio-mandibular disorders</p>	Dr. EID	Continuous evaluation
<p>Advanced dentistry: <90 hours Clinical options - Resuscitation - Pediatric dentistry on young child (6 months to 6 years old) - Introduction to Orthodontics as specialization - Prosthetics technology - Decision-making</p> <p>Option research - Introduction to research methodology</p>	Dr. TOUMELIN	
<p>Clinical work (350 hours) (25% is dedicated to preventive action in a community perspective)</p>		
<p>Non-dental clinical work (100 hours)</p>		

1.4 The European Credit Transfer System ECTS,

This undergraduate curriculum is organised into blocks of subjects, and includes elective periods for project work or in-depth study in the form of courses of 30 ECTS credits. Most of the schedule is traditional, dedicated to lectures, tutorial and laboratory. However, some time has been reserved for seminars and independent study. Examinations now cover larger blocks of subjects, corresponding to about 30 ECTS credits.

ECTS, the European Credit Transfer System, was developed by the Commission of the European Communities in order to provide common procedures to guarantee academic recognition of studies abroad. It provides a way of measuring and comparing learning achievements and transferring them from one institution to another.

ECTS is a decentralised system, based on the principle of mutual trust and confidence between the participating higher education institutions. ECTS provides an instrument to create transparency, to build bridges between institutions and to widen the choices available to students. The system makes it easier for institutions to recognise the learning achievements of students through the use of commonly understood measurements, credits and grades, and it also provides a means for interpreting national systems of higher education.

ECTS is a credit system based on student workload. ECTS credits reflect the quantity of work each course unit requires in relation to the total quantity of work necessary for completing a full year of academic study at the institution, i.e., lectures, lab work, seminars, tutorials, fieldwork, private study, in the library or at home, and examinations or other assessment activities.

ECTS credits ensure that the programme will be reasonable in terms of workload for the students going abroad. In ECTS, 60 credits represent the workload of an academic year of study, 30 credits per semester and 20 credits per term/trimester.

Full credit is awarded only when the student has completed the course and passed all the required examinations.

P2 (2nd Year)

Prerequisite: The first year of medical studies should be successfully completed.

Each module is displayed according to the French legal recommendation.

General Anatomy and physiology 4 credits ECTS Oral Semiology General Anatomy and physiology Heart and Lungs Physiology	Development and Growth 3 credits ECTS Embryology
Stomatognathic System 7 credits ECTS Anatomo physiology Cranio-facial Anatomy and Neuro-Anatomy Stomatognathic Physiology Gnathology	Immunity – inflammation 5 credits ECTS Organisation of the immune system Cells and molecules of Inflammation Review
English 3 credits ECTS	Oral environment 10 credits ECTS (Introduction to the oral ecosystem) Dental Anatomy Dental Histology Histology of the periodontal tissues Biochemistry Immunity of mucous membranes Immunity of secretion Bacteriology
Dental Materials 2 credits ECTS Structure and dental materials features	Periodontology 1 credit ECTS
Cariology 6 credits ECTS	Radiology-imagery 3 credits ECTS biophysics
Restorative Dentistry 6 credits ECTS	
Optional 6 credits ECTS English Information Technology Resuscitation Use of Scientific Literature Infection Control Elective Sport	Pre-clinical training 4 credits ECTS

Total of the year: 60 credits

The number of hours corresponding to the module is calculated as followed: 20 hours × number of credits.

The P2 programme includes 762 hours of lectures, workshops, labs, pre-clinical training and examinations. The time dedicated to personal study is 438 hours.

During this year the students are introduced to basic sciences and techniques with respect to dental practice. The basic scientific knowledge acquired during the first year of medical studies is emphasized.

D1 (3rd Year)

Prerequisite: The D2 programme should be successfully completed.

Stomatognathic System Anatomo physiology Descriptive Anatomy Neuromuscular Regulation Gnathology	4 credits ECTS	Pathology and Surgery 4 credits ECTS General Pathology Pathology and Oral Surgery	4
English	4 credit ECTS	Full Removable Prosthodontics	4 credits ECTS
Dental Materials	3 credits ECTS	Partial Removable Prosthodontics	4 credits ECTS
Development and Growth Orthodontics Embryology Pediatric Dentistry	4 credits ECTS	Fixed Prosthodontics	4 credits ECTS
Infection, inflammation and Pain Infection/inflammation/ Pain Pharmacology Anesthesiology	4 credits ECTS	Radiology- medical image	2 credits ECTS
Endodontics and Conservative Dentistry Conservative Dentistry Endodontics	7 credits	Public Health	2 credits ECTS
Periodontology 4 credits ECTS	4	Optional Oral Ecosystem Resuscitation Technical issues in Prosthodontics Infection Control Electives Sport Therapy with tissular genome	6 credits ECTS
Pre-clinical training 4 credits ECTS	4		

The D2 programme includes 762 hours of lectures, workshops, labs, pre-clinical training and examinations. The time dedicated to personal study is 383 hours 30 minutes.

The goal during this year is to integrate basic sciences into clinical sciences. The teaching methods are lectures, tutorials and laboratory.

D2 (4th Year)

Prerequisite: The D1 programme should be successfully completed.

Dental Materials	1.5 credits ECTS	Periodontology	1.5 credit ECTS
Oral Histo Cyto Pathology	1.5 credits ECTS	Oral Pathology and credits ECTS Surgery	2
		Oral Surgery Oral Pathology Oral Dermatology Drugs administration	
TMJ Disorders (1)	1.5 credits ECTS	Medical Pathology and odontology	1.5 credits ECTS
		Relationship between medicine and odontology Medical and Surgical Pathology	
Community Dentistry credits ECTS	2	Full removable Prosthodontics	2.5 credits ECTS
Public Health Epidemiology			
Comprehensive Care credits ECTS	2	Partial removable Prosthodontics	1.5 credits ECTS
Clinical Examination Pain, Relationship practioner/patient			
Endodontics and conservative credits ECTS Dentistry	2	Fixed Prosthodontics	3 credits ECTS
Pediatric Dentistry	2 credits ECTS	Public Health	2 credits ECTS
		Preventive Strategies	
Orthodontics	2 credits ECTS	Clinical work	22.5 credits ECTS
Optional Programme	4 credits ECTS	Hospital with non-dental setting	5 credits ECTS
English Multidisciplinary approach of complex prosthetic treatments Resuscitation Introduction to research in odontology Nutrition Advanced in Conservative and Endodontic treatment Electives Sport			

The D2 programme includes 1090 hours 30 minutes of lectures, workshops, labs, clinical work and examinations.

The time dedicated to personal study is 109 hours 30 minutes.

The students are mainly involved in the dental clinics, where learning is patient-oriented comprehensive care in a community perspective.

The clinical training focuses on biological, psychological and cultural aspects.

D3 (5th Year)

Prerequisite: The D2 programme should be successfully completed.

Anatomy ECTS	1.5 credits	Oral Pathology and Surgery	2.5 credits ECTS
		Oral Pathology General and surgical Pathology Oral Oncology Oral Dermatology Anesthesiology and Resuscitation	
TMJ Disorders (2)	1 credit ECTS	Pharmacology	1 credit ECTS
Comprehensive Care	1.5 credits ECTS	Full Removable Prosthodontics	1 credits ECTS
Orthodontics	2 credits ECTS	Fixed Prosthodontics	1 credit ECTS
Geriatric Dentistry	0.5 credit ECTS	Implants	2 credits ECTS
Pediatric Dentistry	1.5 credits ECTS	Maxillo-facial Prosthodontics	1 credit ECTS
Periodontology	2 credits ECTS	Edentulous Patients	0.5 credit ECTS
Optional Programme	4 credits ECTS	Clinical work	32.5 credits ECTS
Multidisciplinary approach of treatments Complex Prosthodontics Electives Internship introduction Global treatment of severe parodontal diseases Sport Odontology Resuscitation			
Preparation for Professional practice	4.5 credits ECTS		

The D3 programme includes 1117 hours of lectures, workshops, labs, clinical work and examinations. The time dedicated to personal study is 83 hours.

The traditional structure of the curriculum could affect the foreign students participating in exchange programmes. Some countries have implemented non-compartmentalized programmes.

Conversely, clinical training is very important. Some dental clinics allow specialized training such as periodontology, implants, and orthodontics. The students who wish to develop skills within these topics are asked to discuss their preferences with the local ECTS coordinator.

T1 (6th Year)

Prerequisite: The D3 programme should be successfully completed. The certificate of comprehensive care should be successfully completed.

Modules	Number of credits ECTS
Professional practice: 60 hours G.P as actor of community health Informatics and dental practice Implementation of a dental office Professional risks Dental materials, how to choose ? Professional insertion and finance. Forensic dentistry Responsibility – Ethics – Bioethics Dental office management Review..	12 credits ECTS
Multidisciplinary module: 50 hours Esthetic in dentistry Treatment on patient with severe periodontal disease Dental trauma Edentulous patient with cranio-mandibular disorders.	12 credits ECTS
Multidisciplinary module: 50 hours Esthetic in dentistry Treatment on patient with severe periodontal disease Dental trauma Edentulous patient with cranio-mandibular disorders. Option research Introduction to the research methodology	13.5 credits ECTS
Clinical work (350 hours) (25% is dedicated to preventive action in a community perspective)	17.5 credits ECTS
Non-dental clinical work (100 hours)	5 credits ECTS

The T1 programme includes 650 hours of seminars, workshops, clinical work and evaluation. The time dedicated to personal study is 550 hours.

Stress is placed on orienting future graduates towards general dental practice. Some students are introduced to specific aspects of the dental practice or to the specialization for which they express a preference.

Students deal with patients with special needs, such as the elderly, prophylaxis, non-profit organisations, etc.

The greater part of the students' schedule is dedicated to their final theses.

Europeans students wishing to practice in France might be interested by this type of programme because they receive an introduction to the legal professional regulations of our country.

To understand how the credit value was calculated

In France the academic year lasts 30 weeks, including examinations and clinical work.

The course credit value is 40 hours per week. Therefore, the total number of hours in the academic year is 40 hours a week \times 30 weeks = 1200 hours, which is the total number of hours the student must work in order to complete a full year of academic study at the School, including lectures, lab work, seminars, tutorials, fieldwork, private study, in the library or at home, and examinations or other assessment activities.

As the total number of credits for a year in Europe is 60, the value of one credit is:

$$\frac{\text{Number of student working hours per year}}{60} = \frac{1200}{60} = 20 \text{ hours}$$

Therefore the number of credits awarded for one course unit is the ratio between the number of hours of the course unit over 20. For example, 80 hours of student work represent a 4 credits course.

The figures were voted in by the board of the School and approved by the Paris-5 University council.

This calculation was put into place to help exchange programme students and to make it easier for the School staff that plans the exchange programmes. Students can choose topics of interest in such a way as to achieve 20 credits during 3 months, i.e., 400 hours of work.

1.5 University Budget

University budget

(Research and hospital department excluded):
Academic year 2000-2001

Total budget	8 689 248, 00 FF	1 324 667, 32 euro
of which:	3 483 000, 0 FF	530522,58 euro from the government
The rest is given by		<i>taxe d'apprentissage</i> (education tax)
		rental of classrooms
		Research
		in subsidies
		(including 3,837,000 F in equipment subsidies)

Section 2: Facilities

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

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Pr. Maryse WOLIKOW, e-mail: wolikow@odontologie.univ-paris5.fr

2.1 Clinical Facilities

The Centre for Dental Treatment, Teaching and Research is divided up into four dental clinics. Three of them are located in three different hospitals, which are themselves located in the outskirts of Paris. Only one is located within Paris itself.

The Dental School and the Dental Centre have the same mission, which is to teach theoretical and clinical knowledge to dental students and promoting research. Nevertheless, the Dental Centre and Dental School are managed entirely separately and each of them belongs to a different organisation:

The Dental School is part of Paris-5 University and it is funded by the Ministry of Education

The dental clinics are part of the Teaching Hospital and they are funded by the Ministry of Public Health.

c) The two treatment missions

These are the educational and hospital commitments of the Dental Centre.

c.1 The dental polyclinic (educational mission)

The patients are treated by students, who are supervised by a teaching staff, which is ultimately responsible for the work undertaken. The polyclinic welcomes a large number of patients who all have varying needs. Some request only emergency treatment, others wish to receive full treatment at the Dental Centre. The receptionists send the patients either to the emergency dental clinic or to the patient referral dental clinic.

The patient referral dental clinic

This dental clinic is by appointment only and holds two or three daily 3-hour sessions, Monday through Friday, and one session on Saturday. One instructor and three students run the dental clinic.

The aims of this first consultation are:

- Overall patient assessment and identification of patients at risk

- Dental assessment
- Determining patient needs and requests
- Referral of the patient to the student polyclinic, the house officers or the consultant dental clinics.

Emergency dental clinic

This clinic is open every day from 10 to 12 a.m. and from 3 to 5 p.m., Monday through Friday. The dental clinic is run by one instructor and three students or intern students, who undertake examinations, diagnoses and pain relief for each patient.

Treatment sessions

Over the last few years, the Dental Centre has tried to establish a multidisciplinary approach, in order to train students for general practice. In practical terms this means that:

1. The main field of expertise is defined at the patient referral dental clinic, on the basis of the patient's main treatment need. This field of expertise is then responsible for the treatment plan and it has overall responsibility for the patient. The main field of expertise is usually Conservative Dentistry, Prosthetics or Periodontology.

2. The polyclinic is not divided by field of expertise, except Orthodontics, which has six distinct chairs, and Oral Surgery and Periodontology, which have two. Each student always uses the same dental chair, regardless of the type of treatment to be given. Professors from each of the three main fields of expertise often supervise the clinical sessions simultaneously.

This makes it possible for the student, the patient and teachers from each of the fields of expertise to agree, thus helping the student to understand the concept of a global treatment plan. Student attendance at the Dental Centre varies according to the curriculum over the second, third, fourth, fifth and sixth years.

c.2 Consultant dental clinics (Hospital mission)

Patients referred to the Dental Centre by general dental practitioners, general medical practitioners or hospital departments are treated in the consultant dental clinics by the hospital dental staff. This department takes difficult cases (in orthodontics, prosthetics, implantology, oral surgery, etc.) or patients who are having trouble finding proper care in general practice (special needs patients, preparation for heart surgery, preventive dentistry, testing for patients at risk of dental caries, etc.).

These four dental clinics are run by dental staff.

Dental Clinics	
Pedodontics	Pr. Wolikow Dr. Landru Dr. Gouvernaire Dr. Villette
Orthodontics	Pr. Lautrou Dr. Filleul Dr. Decker Dr. Benhamed
Periodontology	Pr. Brion Pr. Saffar Dr. Bigot Dr. Colombier
Oral Surgery, Oral Pathology	Pr. Poidatz Dr. Maman Dr. Borel J.F.
Orofacial Pain	Pr. Knellesen Dr. Fleiter
Endodontics & Conservative Dentistry	Pr. Lasfargues Pr. Melcer Dr. Lévy Dr. Toumelin
Special Needs	Pr. Jean-Charles Detruit
Prosthodontics	Pr. Buch Dr. Girot Pr. Rignon-Bret Dr. Tirlet
Implantology	Dr. Girot Dr. Tramba
Preventive Dentistry	Dr. Folliguet Dr. Nabet-Guivante Dr. Albert-Gauthier
TMJ Clinic	Dr. Fleiter

d) Patient management within the Dental Centre

d.1 Reception and orientation of patient see above.

d.2 Cross infection control

Quality and cross infection control are constantly reviewed. Cross infection control is ensured by the following rules:

- The patient file holds a full medical history that highlights any potential infection risk.
- The cross infection control rules are enforced in the clinical work:

- Instruments are supplied in sterile packets according to the treatment to be performed. Fourth-year students help with decontamination, conditioning and sterilisation of instruments (each student has a 2-hour weekly session). A list of the instruments contained in each type of tray is included in the clinical manual given to each student.

- There are protocols for prevention of cross infection that are enforced during treatment sessions. The students receive theoretical and practical training in these protocols during the first term of the third year, just before they start their clinical work.

d.3 Patient satisfaction

A survey of patient satisfaction was undertaken in 2000.

e) Management of the Dental Centre

e.1 Receipts

e.1.1 Centralized documentation

e.1.1.1 All patients are registered in the main hospital database.

e.1.1.2 All payments for items or consultations are entered in the database of overall hospital activity.

e.1.2 Internal documentation

e.1.2.1 The patient file for the polyclinic includes the treatment plan, the treatment already performed, the student and the instructor who is responsible for the patient.

e.1.2.2 The patient file for the unit of implantology includes a description of the treatment performed, the treatment sessions dates and the schedule for future treatment and reviews.

e.1.2.3 The patient file also contains all documents associated with the prosthetics unit including order forms, receipts and payment agreements for each laboratory procedure.

e.1.3 Audit of activities

The analysis and management unit provides an annual overview of the activities in each field of expertise and in the consultant dental clinics.

e.2 Expenditures

The department of Odontology does not have its own budget and has no autonomy with respect to expenditure decisions. For many years now, expenditures have been managed in a global fashion. Each year the level of expenditure has been the same as the year before with a slight “directed” increase that may be as small as the inflation rate. This system aims to control expenditures but does not take into account the growth that may occur within a department. It is in the process of being replaced.

f) Strengths of the Dental Centre

f.6 Patient satisfaction

- Generally well satisfied with the Charles Foix hospital dental clinic according to the survey.

f.7 Management of income

- Strict collection of fees due according to the treatment as noted in the file
- Files being developed for patients under recall, implant patients and those awaiting prosthetics and endodontics at the Charles Foix dental clinic.

f.8 Management of expenditure

- Open market for providing prosthetic lab work

g) Weaknesses of the Dental clinic

g.1 Dentists

- Short of staff
- Part-time status inappropriate
- Dental clinic instructors are mostly volunteers
- Lack of full-time clinical assistant positions

g.2 Hospital staff

- Insufficient secretarial staff
- Insufficient auxiliary staff for sterilisation, chairside assistance, etc.
- Hospital and administrative staff conditions dictate the opening hours of the Dental Centre (closes at 5 p.m. two days a week).

g.3 Premises

- Insufficient space for consultant dental clinics
- Premises not accessible to patients in wheelchairs or on stretchers

g.5 Cross infection control

- Sterilisation unit to be modified and isolated – depending on changes to the central hospital sterilisation.
- Supervision of the dental clinic activities in year D1 inadequate

g.6 Patient satisfaction

- Although the patients of the Charles Foix dental clinic seem satisfied, there has not yet been any action with respect to negative points, but the global project includes all the dental clinics.

g. 7 Management of income

- No computerized file allowing follow-up of treatment.

h) Plans for Future Changes

Refurbishment is currently ongoing in the Albert Chenevier dental clinic. Plans have been made to move the Centre Déliberos and the Charles Foix dental clinic.

2.2 Teaching Facilities

General explanation

The teaching facilities are located in the main academic building at Montrouge. The building has the following amenities:

- 1 lecture hall (400 seats) with video equipment
- 2 lecture rooms (300 seats each)
- 1 lecture room (100 seats) with video equipment
- 9 seminar rooms (from 19 to 30 seats)

Strengths

The number of lecture rooms makes it possible to develop both undergraduate and continuing education issues harmoniously during the academic year, which is quite short in the French university context.

Each of the School's locations is connected to the worldwide web.

Weaknesses

With regard to the seminar rooms, there is only limited available space for tutorials.

Innovations and best practices

To develop learning in the seminar rooms rather lecture rooms (tutorial and possibly problem-based learning).

To put in equipment for use of information technology in the seminar rooms and lecture rooms.

2.3 Teaching Laboratories

Planned Developments

The recent development programme of refurbishment of our teaching laboratories will be completed in October and further development is not contemplated for the moment.

General Explanation

The School of Odontology has access to student and specialist laboratories for use in Anatomy, Immunology, Dental materials.

In addition the School has:

5 teaching laboratories with 18 to 20 seats shared facilities for

Prosthodontics, Conservative Dentistry, Endodontics and Orthodontics

2 teaching laboratories with 19 seats with dummy heads, shared facilities for Prosthodontics, Conservative Dentistry and Endodontics

Radiology laboratory

Technical laboratory introducing the technical procedures of prosthodontics.

Strengths

Efficient use of resources and maximization of available facilities.

Weaknesses

The 38-seater dental clinics (there are 100 students in each year), which must provide efficient multipurpose use without departmental segregation are insufficient in number for good use

Best Practices

CAL Equipment in the laboratory dedicated to prosthodontics.

Innovations

Project to design laboratories for multi-purpose use.

2.4 Research Laboratories

The Odontology Department includes a laboratory that is currently approved by the Ministry of National Education: the Biology and Cranio-Facial Physiopathology Laboratory no. EA 2496.

The Biology and Cranio-Facial Physiopathology Laboratory (Head: M. Goldberg), is composed of three groups: 1-Extra-Cellular Matrices and Biomineralisations (Professor M. Goldberg), 2-Physio-pathology of Non-Mineralised Tissues (Professor B. Pellat), 3-Bone Physiopathology (Professor J-L Saffar). The laboratory is used primarily in conjunction with the D.E.A. degree in Oral and Osteo-Articular Biology, Biomaterials and with the Doctorate Schools: Genetics, Immunology, Infectiology, Development (G2ID) of the Paris-5 University (an approval request with the Paris-7 University is currently pending). The laboratory also receives students from other doctoral programmes. This brings in an invigorating input from students and doctoral candidates under the direction of 9 research supervisors (who are called "HDRs" i.e. allowed to conduct research project). Thanks to a controlled distribution of the students and the teachers who work with them, and to a dynamic publication policy, this entity was approved as a Doctoral Training Programme.

For the past two years, all three groups have worked on defining areas of research covering two types of themes: 1- Developmental Biology and Physiopathology of Dental and Periodontal Tissues (tooth, gingiva and periodontal ligament, bone). In this respect, the study of *metalloproteases* is an area of common interest that has increased substantially in all three groups. 2- Regeneration and Therapeutics. Here again, cellular engineering and the biological effects of molecules in the extra-cellular matrix combine in a common focus towards regeneration (bone and periodontal regeneration) and pulpal healing. The laboratory also stresses research and development of therapeutic innovations.

A few years ago, three laboratories were merged into a single entity subdivided into groups working with common purposes.

Each team has developed a number of efficient techniques, which have earned them widespread recognition. They include methods for structural and biochemical analysis of the extra-cellular matrix, as well as for identification of enzymes groups involved in its regulation. This had led to much co-operation with outside organisations, both at a national level with other university laboratories, INSERM and CNRS units, and at an international level (Europe and the US). Relations and co-operation with industrial entities need to be strengthened, but they are already in effect.

The Laboratory for the Study of Biomaterials (Head: Professor M. Degrange) had been merged with a similar entity of the Odontology Department of the Paris-7 University in order to achieve a critical mass more favourable to the acquisition of an official status. Over the past few years, this laboratory's two research supervisors have trained and supervised a number of D.E.A. students and doctoral candidates. Publications have increased over the years. The laboratory mainly focuses on the adhesion of biomaterials to dental structures. A large part of the laboratory's activities is the evaluation of innovative biomaterials. Metals and ceramics have also been studied. This laboratory has now become a key link for dental product manufacturers and practitioners.

One of our lecturers and research scientists, Dr. Ariane Berdal (research supervisor), MCU-PH, carries out her research work in a laboratory of the Paris-7 University.

This research group's activities are in the Biology and Odontology university laboratory (EA-2380, Paris-7 University) where Dr. Berdal is an assistant-director to Professor Nadine Forest.

Dental and cranio-facial development is studied experimentally to analyse the regulation of the proteins expression involved in biomineralisation by vitamin D and counterparts in the MSX and DLX families. Research in human physio-pathology consists in comparing the differentiation between dental and bone cells in the cranio-facial area during development and in odontogenous tumours (PHRC 1997-2000). Emphasis is placed on the need for a clearer progress in clinical research in Odontology, by means of: 1°) co-operation with Public Health dentistry entities and, 2°) a pedagogical contract with INSERM concerning “Methodology for Clinical Research in Odontology” further to an incentive action taken by the two Ministries in charge.

This research team includes students in D.E.A. programmes, doctoral students, interns, Post-doctoral students from Paris-5 University. The other members of the team are from Paris-7 University, EA-2380 (7 research supervisors, 6 doctoral students, 2 Post-doctoral students and 7 technicians in all).

Weaknesses

The laboratory – and particularly the School – are relatively isolated from a geographical point of view. Its scientific activity could be developed more favourably in a location that would be more suited to team interaction.

The heavy equipment, which can be considered as barely suitable, would be vastly improved if it were renovated. This, combined with the necessary development of molecular biology and

imaging technologies, would require an investment that the Department or the University could not bear alone, and it would need to be covered by ministerial and regional allocations.

There are several other University Laboratories within the School. They do not benefit from the Ministry's approval, due to the lack of a policy to support publications and students in D.E.A. or doctoral curriculums. If some of these laboratories were grouped together, they could form more consistent entities.

Plans for Future Changes

Clearly, the policy of training D.E.A. and Doctoral students to do research by the practice of research and the simultaneous training of clinical elites via hospital internships, which has been developed over the years by the Ministries in charge, can only lead to the improvement of the quality of the new recruits. Carefully following up on the students' actual education should in the long run promote the development of high-quality odontological research in France, as it already exists in many other countries.

2.5 Department of Information Technology

Dr. Gérard LÉVY, e-mail: levy@odontologie.univ-paris5.fr

Mr. Christian DUCOURTIOUX, e-mail: ducourti@odontologie.univ-paris5.fr

a) Content

This unit was created in 1992 to complement the teaching departments and it has grown in several areas including introductory training, postgraduate training and communications.

b) Aims and objectives

Undergraduate courses:

- Introduction to computer studies in year P2.
- Optional modules for additional training on two levels for years P2 and D1.
- General computer use in years D1, D2, D3 and T1.
- Self training.
- Communications via the Internet and the Intranet.
- Disposition of computer-assisted publishing (PAO and pre-AO), tables and statistics packages (for doctoral students).
- Literature research strategies.

For teachers:

- Possibility of using hardware and software.
- Production of slides.
- Introductory training.
- Technical assistance.
- Possibility of using the Internet and the Intranet.

For professionals:

- Communication with other dentists via the web.
- Postgraduate training on-site or remote.

c) Resources

Hardware:

- 1 Internet-Intranet server.
- 5 networked Macintosh and IBM computers.
- 2 printers, including 1 colour printer.
- 1 colour scanner.
- 1 slide scanner.
- 1 language lab.

Manpower:

- 1 full-time technician.
- 1 full-time senior lecturer.

Facilities:

- 1 teaching room.

d) Methods of assessment

Assessment is included within the tasks given by instructor to the students.

e) Strengths

- The quality of the equipment.
- The competence and efficiency of the staff.
- The good spirit in the unit.
- The presence and availability of the staff.
- The spirit of imagination and innovation in the unit.

f) Weaknesses

(As reported by staff and students)

- Limited human resources.
- Poor technical manuals.
- Limited budget.
- Limited opening hours.

2.6 Library

Isabelle POUPART

Esther MARINI

Marie Thérèse VITTONATI

Olivier POUGET

Christine FUNARO

The Odontology Department library is part of the Joint Documentation Department of the Paris-5 University (René Descartes).

It is available to students and teachers/research scientists of the dental surgery school.

LIBRARY COLLECTION

- Statistics (as of June 30, 2000)
- books: 10,500 volumes including 6,500 recent volumes (less than 10 years old)
- theses: 15,500
- periodicals: 278 titles including 194 current (8 full-text electronic periodicals)
- videocassettes: 401
- electronic documents: 35 CD-ROMs
- Specific features of the collection
- Very specialised documentation, primarily focused on dentistry, for purposes of clinical work and research.
- The documentation policy is in keeping with the school's main curriculum of initial education and continuing education.
- 1st and 2nd cycles: French language textbooks (on average 10 to 15 copies of each, often more);
- Continuing education: focus on the video library: substantial number of videocassettes considering the primarily visual aspect of the profession.

LIBRARY ACTIVITIES

- READERS

- Members: 1,500, including approximately 250 members from other schools and practitioners in continuing education, and a relatively high number of practitioners and students from Maghreb and Africa.

- LIBRARY SERVICES

- 1 – Document consultation
- 2 – Loans: 13,000 loans in 1999
- 3 – Inter-library loans: any documents that the library does not possess can be borrowed from other libraries. In fact, since the library's collection is quite substantial, it tends to loan more than it borrows.
- 4 – Photocopy services
- 5 – Continuing education
- 6 – Access to medical and scientific databases
- 7 – Access to the video library
- 8 – Access to the Internet

Amongst the resources available on the Internet, many medical websites are worth mentioning: the Washington National Medical Library, with free access to Medline, the INSERM, websites dealing with oncology, AIDS and drugs, the Vidal publications, and access to the University of Montreal (continuing education in the area of medicine), to the Rouen Public University Hospital (catalogue and index of medical web sites), etc., several dentistry and other publications by many foreign universities and associations: ADF, FDI, the European Academy of Aesthetic Dentistry, for instance, and a large number of websites covering the various clinical areas of odontology, and the catalogues of French and foreign publishers specialised in odontology, and access to the services offered by major French libraries, including the national library (Bibliothèque Nationale de France).

We also offer free access to the major medical databases, including INIST (formerly CNRS), Medline, the national database on dentistry and medical theses, and practical advice concerning the instructions given to authors, bibliography presentation methods, and an access to FORMIST: information retrieval training for university members.

All services are free of charge, except photocopies.

- 9 – Many gifts are made in favour of French-speaking Africa, and co-operation is organised with foreign countries.

COMPUTERIZED MANAGEMENT OF THE LIBRARY

The library has a Library Computer Management System (ALEPH), which operates via a network and can be used to manage loans, inventory lists, documents and periodicals acquisitions, and professional research.

The library also contributes to the OCLC notices pool: notice creation and derivation.

STAFF

Qualified team including five permanent employees and one temporary employee (trainee)

Strengths

- Research: mostly English language books (2 copies of each on average).
- Very substantial inventories due to the importance of the school's research laboratories and the member's research activity in 3rd cycle: research scientists from Paris and the rest of France, student from the CES, DU, D.E.A., Internship, CECSMO and State Doctorate.

Weaknesses

Architectural structure are not enough adapted for good use of the library

Best practices

Good co-operation with the staff.

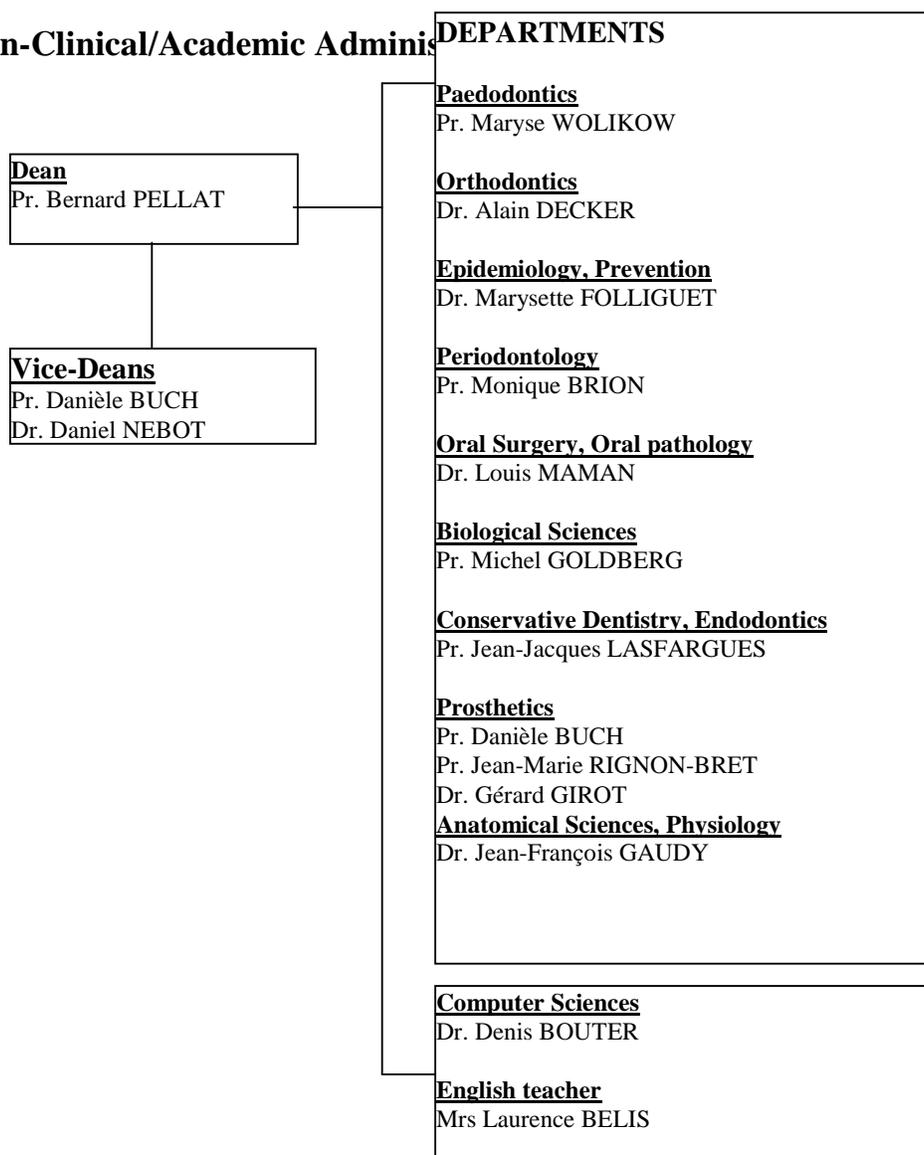
Section 3: Administration and Organisation

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3.1 Clinical/Academic Organisational Structures for school and hospital

Organisational Structures for School

3.2 Non-Clinical/Academic Administration



Section 4: Staff

Pr. Bernard PELLAT, e-mail: pellat@odontologie.univ-paris5.fr

Clinical Academic Staff Statistics:

University professors / consultants (PuPh):	10	(All Full-time)
1 st Grade professors (PrIG)/ consultants:	11	(Part-Time)
Senior lecturers / consultants (McuPh):	49	(11 Full-Time,38 Part-Time)
Non Senior Staff	72	(1 Full-Time, 71 Part-Time)
Teachers without clinical duties	2	

Academic Staff

Department of Pediatric Dentistry

Maryse WOLIKOW, Head of Department, Professor

Jean-Pierre FORTIER Professor

Pierre ALDIN Senior Lecturer

Marguerite-Marie LANDRU Senior Lecturer

Françoise VILLETTE Senior Lecturer

Arabelle GOUVERNAIRE Senior Lecturer

Dr. Emmanuel NICOLAS Lecturer

Stéphanie FANCHON Lecturer

Stéphane REVOL Lecturer

Hervé PEYRAUD Lecturer

Dominique ROSENBERG Lecturer

Department of Orthodontics

Alain LAUTROU Professor

Alain DECKER, Senior Lecturer Head of Department

Philippe GUGNY Professor

Georges SKINAZI Professor

Malika BENAHMED Senior Lecturer

Elisabeth DHUMEAUX-BOEDELIS Senior Lecturer

Marie-Pierryle FILLEUL Senior Lecturer

Laurent VERMELIN Senior Lecturer

Philippe AMAT Lecturer
 Annaïg GOURMELEN Lecturer
 Thierry LANGERON-GARDRINIER Lecturer
 Coralie MISSELIS, Lecturer
 Igal NAHMIAS, Lecturer
 Frédéric TETE, Lecturer
 Evelyne ZUBICKI-FERRARI, Lecturer

Department of Public Health

Marysette FOLLIGUET Head of Department, Senior Lecturer
 Jean-Charles DETRUIT, Professor, Geriatric Dentistry
 Jules NEJAR Professor
 Ronald NOSSINTCHOUK Professor
 Catherine DARGENT-PARE, Senior Lecturer
 Catherine GUIVANTE-NABET Senior Lecturer
 Jean-Claude TAVERNIER Senior Lecturer
 Patricia BENETIERE, Lecturer
 Gilles DUVERNEUIL, Lecturer

Department of Oral Surgery, Oral Medicine and Oral Pathology

Louis MAMAN, Head of Department, Senior Lecturer
 Elisabeth POIDATZ, Professor
 Jean-Claude THIBAUT, Professor
 Alain HADIDA Senior Lecturer
 Philippe LESCLOUS Senior Lecturer
 Claude WIERZBA Lecturer
 François ALLAIN Lecturer
 Sébastien MOLKO Lecturer
 Hélène CATALAA Lecturer
 Thibaut CHANTRAINE Lecturer
 Mehran HAMEDANI Lecturer
 Pierre JACQUEMART Lecturer
 Ngoc Thong NGUYEN Lecturer

Department of Periodontology

Monique BRION Head of Department Professor
 Jean-Louis SAFFAR Professor
 Claude BIGOT Senior Lecturer
 Marie-Laure COLOMBIER Senior Lecturer
 Marc DANAN Senior Lecturer
 Roger DETIENVILLE Senior Lecturer
 Jean GAINET Lecturer
 Anne GRASSOT-DEFLINE Lecturer
 Dominique GUEZ Lecturer
 Anne-Emmanuelle GUILLOT Lecturer
 Patricia JOUIN Lecturer
 Thierry PERRONNET Lecturer
 Gilbert THUONG-CONG Lecturer
 Michel UZAN Lecturer

Department of Biological Sciences

Michel GOLDBERG Histology, Professor, Head of Department
 Ariane BERDAL, Histology, Senior Lecturer
 Corinne LALLAM-LAROYE Histology, Lecturer
 H el ene CHARDIN, Microbiology – Immunology, Senior Lecturer
 Olivier RAPOPORT, Microbiology – Immunology, Lecturer
 Charles-Daniel ARRETO, Pharmacology, Senior Lecturer
 Moncef BELALA, Lecturer
 Jean-Claude KAQUELER, Cytology, Head of Department, Professor
 Olivier LEMAY, Cytology, Senior Lecturer
 Sylvie SEGUIER, Cytology, Lecturer
 Bernard PELLAT Biochemistry, Head of Department, Professor
 Gaston GODEAU, Biochemistry Professor
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 Clara KOUYOUMDJIAN, Senior Lecturer
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Laurence Belis, Associate Professor

Other Dental Clinic Staff

Dental Clinic Instructors 13

Other staff belonging to the University

Lab Instructors 20

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 Dr. Christophe BILWEISS, Anatomy
 Dr. Daniel BITTON, Public Health
 Dr. Michel BRESSET Public Health
 Dr. Charles de TESSIERES, Conservative Dentistry
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 Dr. Bruno DRAY, Conservative Dentistry
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 Dr. Dominique ESTRADE, Gnathology
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 Dr. Jean-Charles KOHAUT, Gnathology
 Dr. Ephraim MEDINA, IT
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Section 5 - 16: The Dental Curriculum

Introduction

The Dental curriculum of the Dental School of Paris-5 is structured on “ patients profiles ”. The programme has been fundamentally altered in order to promote student-oriented teaching with emphasis on comprehensive care of the patient. The compartmentalized approach of the DENTED visitation document does not easily lend itself to our new curriculum.

This is why in a first part we have presented the organisation of our new curriculum. Then every effort has been made to comply with the DENTED structure.

The Biological Sciences

5.1 Biochemistry

Pr. Bemard PELLAT

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Dr. Bruno GOGLY

Introduction

Biochemistry is essential to understanding the human physiology and pathology. The course takes place in the second, third, fourth and fifth years of the curriculum in classes entitled “ biology of the oral environment ”, “ immunity, inflammation, pain ”, “ hematology ” and “ nutrition ”.

Primary Aims

- Understanding biochemistry in normal and pathological human functions.
- To place the oral cavity and the practice of dentistry in a global environment.

Main Objectives

- Biochemistry of the oral environment: saliva, dental plaque, bacterial metabolism, fluoride metabolism, etc.
- Biochemistry and hematology
- Biochemistry of immunity and inflammation
- Biochemistry of pain
- Structure and function of conjunctive tissues
- Nutrition and biochemistry: protein, carbohydrate, fats, digestion, absorption and metabolism. Cell nutrition.

- Carbohydrate structure and metabolism including electron transport and oxidative-phosphorylation, nutrition and energy
- Fat structure and metabolism
- Cell membranes and metabolite transport
- Nucleic acids
- Endocrinology, the role of hormones
- Connective tissues with special emphasis on blood and bone
- Calcium and vitamin D
- Fluoride metabolism
- Kidney function

Hours in the Curriculum

- second year 14 hours
- third year 16 hours
- fourth year 8 hours
- fifth year 8 hours
- 48 hours of optional courses during third and fourth years

Methods of Learning/Teaching

Lectures

Lab work

Assessment Methods

- Structured questions
- Short-answer questions

Strengths

All teachers in the biochemistry department are researchers in the “Physiopathology of non-mineralised tissue” laboratory directed by Pr. G. Godeau and Pr. Pellat (Dental School of Paris-5 University).

Weaknesses

The difficulty of linking this basic science to the dental practice

Innovations and Best Practices

The biochemistry courses are designed for the dental practice, and they cover all the bases of this science.

Emphasis has been doing in self-directive learning. Moreover the biochemistry department has introduced the use of computerised courses in association with clinical department in order to integrate basic sciences in the clinics. 2 CD ROM have been made. One deals with homeostasis disorders; the other is an integrated course called Oral Environment in which Biochemistry,

Immunology, Bacteriology and Cariology are associated. To built this course the faculty of Rennes (Brittany) has collaborated with our dental school, particularly for the Bacteriologic issue.

Plans for Future Changes

To welcome in the laboratory sixth-year dental students wishing to work on personal research projects.

5.2 Biophysics

Dr. Yves PELLERIN, e-mail: yves.pellerin@odontologie.univ-paris5.fr

Introduction

The biophysics course is given in the second and the third years (P2 and D1) in a module called “ Radiology / Medical Imagery / Biophysics ”.

Primary Aims

The primary aim of the course is to promote a basic knowledge of biophysical terms in relation to dentistry.

Main Objectives

The main objectives of the course are for the students to learn about:

- Electricity in dentistry
- Electromagnetic radiation's and dentistry
- Vibrations and ultrasonic
- Visual coloured perception
- Radiology

Hours in the Curriculum

In total, 49 contact hours of pre-clinical lectures, tutorial and laboratories followed by clinical work.

Methods of Learning/Teaching

31 lectures (31 hours), 15 hours of laboratory work, 2 tutorials (6 hours) and personal study at the library and clinical issues.

Assessment methods

P2: a one hour written examination plus the grades given during the year for the laboratories.

D1: a one hour written examination and group assessment.

Strengths

The permanent effort made to connect this basic science with the dental practice, which is convenient to implement since the teachers are dentists either in private practices or in hospitals.

Weaknesses

Insufficient financial support to allow the renewal and maintenance of the laboratory equipment. Curricular implementation, research duties and dental service cause considerable workload for all academic staff members and make it difficult to respond to the students' needs.

Innovations and Best Practices

Constant renewal of the programme, which is mainly oriented towards undergraduate students.

Plans for Future Changes

We are examining new pedagogical methods to attract a larger number of students to this course, as many of them are not aware of its importance for their future dental practice.

Section 6: Pre-Clinical Sciences

6.1 Anatomy and physiology

Introduction

The teaching of anatomy and general and cranio-facial physiology is a major part of the initial course for dental surgery students. The acquisition of this data is necessary as a foundation for most clinical fields of expertise.

Primary Aims

- To understand the physiological mechanisms of the main functions.
- To have a sufficient knowledge of anatomy for their future clinical practice.
- To be able to manage an incident or an accident during a surgical act or procedure.
- To be able to better manage their relations with the rest of the medical profession by mastering anatomy and physiology.

Main Objectives

- To know the development and organisation of the cranio-facial system.
- To know the architecture and functional organisation of the masticator and skin muscles.
- To have a very good knowledge of arterial vascularization of the oro-facial region.
- To learn, understand and master the sensory and motor innervation of the oro-facial sphere for its clinical application.
- To acquire a good understanding of the channels and control of oro-facial sensitivity.
- To know the channels and control of gustation, mastication and swallowing.
- To have a good knowledge of the channels and control of pain.
- To have a good knowledge and hence a good mastery of possible anatomical risks and their clinical procedures.

Organisation of the curriculum

PCO2 :

- Anatomy of the central nervous system: 7 hours of courses to set up the structure of the nervous system as supporting the various functions.
- Setting up the cranio-facial bone structures: 8 hours.
- Myology, vascularity and innervation of the head and neck: 16 hours.
- Manducation physiology (16 hours of courses) and anatomy with a synthesis of the previous teachings.
- 17 sessions of lab work on osteology, mycology and innervation allowing to complete the theoretical knowledge of the lectures.
- 3 lab work sessions (2½ hours each) in neuro-anatomy ensure comprehension of the organogenesis of the central nervous system and a better understanding of the complexity of anatomical structures through the study of anatomical parts, pedagogical models, and anatomical cross-sections.
- In the context of a complete course entitled "Anatomy and General Physiology," students are given a 17-hours introductory course on basic cardio-vascular, pulmonary, digestive and renal anatomy and physiology, as a basis for the teaching of medical semiology.

DCO1 :

- A 7-hour course on the physiological mechanisms of mastication and swallowing control and co-ordination and neuro-muscular regulation supplement the knowledge acquired in PCEO2.
- A 12-hour course on the areas forming the oral cavity constitutes a synthesis of the initial course.
- Multidisciplinary lab work including 3 sessions (2 hours each) joined with gnathology deals with all the information acquired on the subjects of physiology and oro-facial anatomy.

DCO3 :

- a 6-hour course presented as a slide show is dedicated to the clinical applications of anatomy: analgesia, oral surgery, implantology.
- The students are given a specific course on implant anatomy in the context of the implantology module.
- Six 3-hour sessions of dissection lab work on fresh human heads allow students to review their theoretical knowledge. The first three sessions are dedicated to the

dissection of various areas (on half heads), of muscles, vessels and the masticatory vessels. The last three sessions are dedicated to the simulation of surgical procedures to verify their anatomical relationships.

Method of learning/teaching

The teaching methods are quite conventional for PCEO2 and DCEO1. They consist in using course materials such as transparencies and occasionally a few slides. In DCEO3, the course is solely carried out by presenting slide shows that associate anatomical and clinical material.

As concerns the practical work and the lab work of PCEO2, the objective is to complete the theoretical course by a good visualisation of the anatomical structures by having the students work on bone parts, embedded anatomical cross-sections and, anatomical parts for the encephalon and the brain stem).

In DCEO3, the coursework is exclusively hands-on through dissections.

Assessment Methods

The PCEO2 exam, which lasts 3 hours, combines multiple-choice questions, diagrams to be completed with titles, and a series of short-answer questions to test the knowledge that the students must have acquired.

In DCEO1, the exam lasts 1 hour and always associates an anatomical question with a clinical situation.

The validation of DCEO3 is composed of the year's grades in the lab work and of an oral exam on anatomy in connection with clinical practice (analgesia, surgery, etc.).

Strengths

- The quantity of pedagogical material available to students (macro models, skull models, embedded anatomical cross-sections, stored anatomical parts)
- The existence of dissection lab work applied to clinical cases. We are the only School to allow students to perform clinical procedures on fresh anatomical parts, to allow them to understand the difficulty of, and the risks entailed by, such procedures.

Weaknesses

- The course is too heavily concentrated in PCEO2.
- The amount of multidisciplinary courses is still too small.

Innovations and Best Practices

- The practical work in DCEO3, which allows students of the end of this cycle to prepare for clinical work. This course, which is very expensive to run, is much appreciated by the students.

Plans for Future Changes

- To expand on the existing pedagogical tools.

- To reduce the amount of lectures and increase the amount of lab work.
- To implement computer-assisted interactive teaching.

Section 7 : Para-Clinical Sciences

7.1 Pharmacology

Dr. Jean-Charles ARRETO

1. Introduction

The course in Pharmacology in Odontology must comply with the legal rules governing the prescription of medicinal substances as set forth in the French Public Health Code (PHC) in force in the French Republic. Article L.368 of the PHC provides that Dental Surgeons can prescribe all such medicines as may be necessary for the performance of dentistry. Accordingly, this extensive power must be based upon appropriate training and education.

2. Primary Aims

Acquisition of the required knowledge concerning the pharmaco-therapeutic classes necessary in the practice of dentistry, including the basics in pharmacodynamics (study of the action mechanisms of drugs), the basics in pharmacokinetics (study of the transformation of drugs in the body), the basics in pharmaco-therapeutics (study of the interactions amongst drugs, between drugs and physiological conditions, between drugs and pathological conditions, study of the undesirable side effects of drugs) and the basics in pharmaco-economy (basics in generic drugs) and in pharmaco-epidemiology (basics in Pharmacovigilance).

1. Main Objectives

Since the implementation of the odontology curriculum reform, Pharmacology has been spread out over the three years of the second cycle of the odontology curriculum (DCEO1, DCEO2 and DCEO3). The Pharmacology courses must enable Odontology students to meet the twofold requirement of drugs, namely to assess the efficiency/tolerance and benefit/risk ratios.

For students graduating from the DCEO1 curriculum, the educational objectives are:

- Writing prescriptions for the therapeutic classifications that are commonly used in Odontology (analgesics, antibiotics, anti-inflammatory drugs, etc.) under the supervision of a practitioner.
- Understanding the risks related to the prescription of drugs (the patient's physio-pathological condition, drug interactions, side effects, etc.) and the use of certain classifications in performing dentistry (local anaesthetics).

For students graduating from the DCEO2 curriculum, the educational objectives are:

- Writing prescriptions during hospital practice, under the supervision of a practitioner;
- Controlling the risks related to the prescription of drugs (the patient's physio-pathological condition, drug interactions, side effects, etc.) and the use of certain classifications in performing dentistry (local anaesthetics).
- Using bibliographical references (e.g., GNP®, VIRAL®).

For students graduating from the DCEO3 curriculum, the educational objectives are:

- Writing prescriptions during hospital practice alone.
- Controlling the risks related to the prescription of drugs (the patient's physio-pathological condition, drug interactions, side effects, etc.) and the use of certain classifications in performing dentistry (local anaesthetics) (Pharmacovigilance).
- Diagnosing the pathologies the patient is suffering from according to the contents of a prescription.
- Using bibliographical references when necessary (e.g., GNT'®, VIDAL®).

1. Hours in the Curriculum

DCEO1 : 7 hours

DCEO2: 7 hours

DCEO3: 10 hours

2. Methods of Learning/Teaching

Lectures are an essential part of the knowledge-acquisition process. However, it is also necessary to include theoretical simulations before starting hospital internship. This requirement has been addressed by the creation of tutorial / lab work classes. These classes are an opportunity to practice the theoretical knowledge acquired about drugs during the lectures, by writing prescriptions and learning how to use bibliographical references such as GNT'® or VIDAL®.

Implementing the triggering of the Pharmacovigilance system by filling out the Pharmacovigilance form.

During their hospital exercises, students are faced with writing prescriptions in clinical situations.

3. Assessment Methods

- Written examinations and training assessment in hospital.

4. Innovations and Best Practices

Bibliographical references are currently presented in digital media form (CD-ROM) or accessible on databases (MEDLINE, THERIAQUE, VIDAL, etc.): computer skills are necessary. Students thus become aware of the fact that their knowledge is tenuous and requires regular updating.

5. Plans for Future Changes

Pharmacology in the Odontology curriculum is still in its infancy. Accordingly, it seems necessary to improve its interaction with other Pharmacology teachers in schools of medicine or pharmacy, and even veterinary schools.

The Pharmacology that is taught is mainly allopathic. It would be appropriate to include alternative therapies (such as homeopathy, phyto-therapy, etc.) in the Pharmacology curriculum, so as to ensure that they do not become an area reserved for unprofessional people.

7.2 General Microbiology Immunology and Virology

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1. Introduction

These courses are included in various PCEO2 subject units: “Oral Environment” and “Immune system and inflammation.”

In the virology curriculum, this course is included in the subject units called “Infection-Inflammation-Pain” of the DCEO1 degree.

2. Primary Aims

Bringing the students to know and understand how the oral ecosystem operates. This can be achieved by means of a description of the oral commensal flora, of its interaction with the existing structures and of the ways of maintaining the flora / host balance.

These general aims are achieved through teaching the basics in microbiology and immunology, and through teaching more specialized courses on the oral flora and the immune system of mucus membranes.

In the virology curriculum, the aim is to teach students the basics required to understand, treat and know how to behave in front of the viral pathologies they may encounter in their professional practice.

3. Main Objectives

Bacteriology: Student must:

- Know the composition of the oral flora under normal and pathological circumstances (without diagnosis of a specific pathology, but simply with the evocation of an organ "pathology"). This entails the following:
- Knowledge of the cell structure and physiology of bacteria;
- Knowledge of the specific features of the species of bacteria involved;
- Knowledge of bacteria's method of adhesion and virulence factors;
- Knowledge of the formation process of dental bacterial plaque.
- Knowledge of action processes of antibiotics and the resistance processes of bacteria.

Immunology: Students must:

- Know and understand the operation of the immune system;
- Know the specific characteristics of oral immunity;
- Grasp the limit of the system by studying pathological cases.

4 Hours in the Curriculum

Total contact time: 44 hours.

5 Methods of Learning/Teaching

Bacteriology:

This course is taught by means of lectures and laboratory work.

At the beginning of the year, the students receive a package of course material at the beginning of the year, which summarizes the themes addressed in class.

Immunology:

This course is taught by means of lectures, laboratory work and tutorial classes.

In addition to this specific course, students also learn about these topics during synthesis sessions concerning the oral environment and immunity-inflammation.

Virology:

The students receive a package of course material at the beginning of the year, but there are no supporting lectures. However, a session is organised in a lecture hall to answer any questions raised in the document.

Two tutorial sessions are organised to address the following issues:

- biological parameters of viral infections;

- anti-viral treatments.

In these sessions, the following can be discussed: characteristics of viruses and of the viral infection itself, and the appropriate response to a given infectious situation.

7.3 Cytology and Hystopathology

Pr. J.C. KAQUELER

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Dr. O. LEMAY

Dr. S.SEGUIER

1. Introduction

The histo-pathology courses follow the histology course and form part of the third and fourth year curriculum.

In third year, histo-pathology is part of a 30-lecture module entitled "Infection & Inflammation and Pain," with six 90-minute lab sessions.

In fourth year, the students attend 14 lectures entitled "Oral Cyto and Histo-Pathology," as well as six 90-minute lab sessions.

2. Primary Aims

To provide the students with the basic tools for the knowledge and understanding of cyto- and histopathology, to prepare them to understand the various types of damage occurring in diseases and to establish a correlation with clinical situations.

3. Main Objectives

- To acquire and develop basic knowledge with respect to diseased cells and to the reactions of tissues to injury, together with the process of inflammation and infection, and to the healing process in terms of biological and clinical principles. The physiological and anatomical bases of pain mechanisms are also taught, as well as pain treatments.
- To insist upon the many aspects of the human immune response.
- To understand the principles of premalignant states and benign and malignant tumors mainly of the oral cavity.
- To facilitate the understanding of histo-pathology of the vascular system and hemostasis in order to develop a better clinical approach.
- To reduce the gap between the basic sciences and clinical applications.

4. Hours in the Curriculum

The students attend 46 hours of lectures (each lasting 1 hour) and 12 lab sessions (each lasting 1½ hour) with a limited number of students (no more than 10).

5. Methods of Learning/Teaching

The subject matters discussed in the lectures are always illustrated by histo-pathological and clinical illustrations and an outline of the subject is given to the students for each subject matter. During the lab sessions, the students are asked to summarize and comment an article given ahead of time and the professor monitors the debate, gives additional information and establishes a correlation with clinical situations.

Interaction between the students is encouraged during these lab sessions.

6. Assessment Methods

The knowledge of the students is assessed by means of two final written examinations based upon two or three questions. The answers are given in essay form. In addition, two oral examinations allow to evaluate the student's ability to identify cyto- and histopathological phenomena on slides and to relate them to clinical aspects showed in parallel.

7. Strengths

The lab sessions are very useful in allowing students to improve their understanding of the subjects discussed in the lectures and to help them to integrate histopathology into their diagnoses and clinical approaches. Although it may be limited, their knowledge of the literature enables them to keep themselves informed.

8. Weaknesses

Although the students like to rely upon lectures, we think these methods are obsolete and should be replaced by teaching methods that are more interactive and dynamic, which saves many hours of course work in the curriculum that could be used for independent study on computer-based programmes at the library. The lab sessions should be more frequent and require the students' active participation.

9. Innovations and Best Practices

Cyto- and histo-pathology must be more integrated within other basic and clinical fields of expertise dealing with pathology, rather than being isolated. Computer-based teaching should be developed and easily accessible to the students.

10. Plans for Future Changes

We try to provide the students with enough teaching materials (slides, CD, movies) to stimulate their curiosity and their interactive participation in order to prevent passive learning as much as possible.

Section 8 : Human Diseases

Go through section 13

Section 9 : Orthodontics and Child Dental Health

9.1 Orthodontics

Dr. Malika BENAHMED, e-mail : Malika.Benahmed@odontologie.univ-paris5.fr

1. Introduction

Orthodontics is part of the undergraduate dental curriculum and specialty training. It must be confirmed by hospital experience: students are assigned to one of four dental clinics in the PARIS HOSPITAL system (public health service), located respectively in COLOMBES, CRETEIL, DELIBEROS, IVRY.

Undergraduate curriculum: during their orthodontics training, students must learn the following: facial development (normal growth, malocclusions and cranio-facial abnormalities), clinical examination, diagnosis, differential diagnosis, complementary records, cephalometrics and therapeutic strategy, orthodontic indications in complex cases, interdisciplinary cases (the students' hospital work is cross-disciplinary) carried out through multidisciplinary course work (case studies, doctor/patient relations, working out treatment plan, finding the best way to satisfy the patient's requests).

They thus learn an approach to paediatric orthodontics and adult orthodontics.

2. Primary Aims

Generalist dentist training in diagnosis, early detection of malocclusions, preventive and interceptive treatment.

FOR GENERALIST DENTISTS: the aims of orthodontics (different levels of treatment), detecting severe cases, responding to patients' requests and being aware of one's limitations.

FOR FUTURE ORTHODONTICS PRACTITIONERS: completion of the curriculum, excellence for a specialised practice.

3. Main Objectives

To understand:

The part played by orthodontics in a treatment plan, the difficult stages of orthodontics, and their effects on patient care (orthodontics is not merely a mechanical discipline).

The students are future general practitioners and they must be proficient.

4. Hours in the Curriculum

The orthodontics courses that are part of the Dental curriculum are divided up into three cycles.

First and second cycles:

Three main stages are scheduled:

YEAR	THEORY	PRACTICE
DCEO1	3 hours	5 hours
DCEO2	16 hours	8 hours
DCEO3	17 hours	8 hours

Third cycle:

- Short stage: one year :

OPTIONAL T1 30 hours (in 3-hour sessions)

- long stage: four-year specialisation in orthodontics:

Basic sciences 300 hours

Clinical sciences 800 hours

PRACTICE 1,400 hours with 1,200 hours of clinical training and 200 hours in laboratory

CECSMO (Certificate of Specialised Clinical Studies, Mention, Orthodontics)

1st year 115 hours

2nd year 146 hours

3rd year 106 hours

4th year: Only Clinical practice, lectures, training for the final national exam and an elective.

5. Methods of Learning/Teaching

During the second cycle we try to test the PBL method and interactive courses.

During clinical training: early orthodontic treatment is taught in the third cycle.

During the theoretical sessions: interactive tutorial in groups of 13 persons.

In the extra-curriculum sessions, student improve their article-reading skills, prepare the national exam and their work is proof-read by different teachers. Students attend lectures by famous guest orthodontists.

In Clinical sessions (3 x 3 hours a week) they practice the treatment of different malocclusions on children and adults.

6. Assessment Methods

Second cycle:

Attendance and assessment of motivation.

Written examination on the main theoretical courses.

Final examinations every year.

Disqualifying grade: 5.

Third Cycle: specialisation (CECSMO)

First year:

At the end of the first quarter: Selective LOCAL examination: 7 students out of 80 were selected.

Years 2 and 3: local examination.

Year 4 (last): national examination.

7. Strengths

Although traditional teaching methods are still practised, we are open to new teaching methods.

Teachers each have a speciality: growth, cranio-facial abnormalities, mechanics, biomechanics.

With regard to the theoretical sessions, the training programme is shared with the Dentistry school of the Paris-7 University.

National examination.

8. Weaknesses

To students, Orthodontics is perceived as an optional subject (because they are more concerned with restorative prosthetics or surgical dentistry. Because the course is specialised, they believe that it is for orthodontists only).

As a result, they tend to neglect it. Only 15% of the students attend the theoretical sessions: it is necessary to review the training course, perhaps using IT for interest incentive and better understanding.

They want to learn the mechanics before learning the basics. We must find ways to motivate the students and to give them good methods for learning orthodontics.

9. Innovations and Best Practices

More clinical situations and discussions.

Staff in clinical sessions.

Multidisciplinary approach.

Optional T1 for motivation and preparation of certification in orthodontics.

10. Plans for future changes

It is necessary to consider how to, and who can, perform interceptive treatment and under what conditions.

Improvement of the students' active participation in D3 clinical work in child care and multidisciplinary cases.

This is the third millennium: student must be able to offer an orthodontic treatment plan before, or instead of, solving cases by prosthetic or implant solutions.

9.2 Child Dental Health

Pr. Maryse WOLIKOW

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1. Introduction

Specific Pediatric Dentistry training can be taken in DCEO2, DCEO3 and TCEO1 (optional courses). The prerequisite is basic knowledge of cariology, prevention, growth and development, temporary tooth anatomy, all of which are courses in which Pediatric Dentistry teachers participate.

2. Primary Aims

- description of the normal appearance and growth of the oral cavity of children and of common oral diseases and abnormalities, mentioning their frequency and the etiology of such ailments.
- examining, diagnosing, planning and implementing the preventive and curative actions against structural and growth diseases and abnormalities that are suitable for children and adjustment of these actions depending on the young patients' somatic and psychological evolution.

3. Main Objectives

By the end of the curriculum, young graduates will be capable of:

- Planning and mastering prophylactic actions, whether alone or integrated in diet and oral hygiene, or combined with the prescription of fluoride in all forms to children and adolescents.
- Taking and interpreting X-rays showing primary teeth, set of both primary and permanent teeth, and young permanent teeth with the surrounding bone.
- Making a diagnosis and treating patients with cavities, and their pulp and parodontal complications in primary teeth and sets of both primary and permanent teeth, and assessing the prognosis.
- Making a diagnosis and treating patients suffering from traumas and their complications in primary teeth and sets of both primary and permanent teeth, and assessing the prognosis.

- Using the local anaesthetic that is best suited for the young patient's level of somatic and psychological development.
- Making a diagnosis and treating children and adolescents suffering from periodontal diseases, and assessing the prognosis.
- Making a diagnosis and treating patients suffering from early disorders in the change of their primary teeth to their permanent teeth, and assessing the prognosis.
- Identifying the complex muco-surgical problems that require a specialist's advice.

4. Hours in the Curriculum

1- Theoretical courses:

DCEO1 : growth and development : 3 hours

DCEO2: 20 hours of lectures and 10 hours of lab work

DCEO3: 20 hours of lectures and 12 hours of lab work

TCEO1 (optional): 27 hours

2- Pre-clinical lab work:

DCEO2 : 6 hours

3- Clinical courses:

DCEO3: 192 hours over 32 weeks.

TCEO1 (optional): 36 hours of tutorial work over 12 weeks.

5. Methods of Learning/Teaching

These methods include lectures and lab work in groups of 15 to 20 students, focused on the deeper study of the basic data in the DCEO2 curriculum, and on the analysis of clinical cases in the DCEO3 curriculum.

In the DCEO2 curriculum, the lab work concerns restorative dentistry applied to temporary teeth, and prefabricated crowns.

During clinical training, students are supervised by a tutor and encouraged to examine young patients as individuals and to plan the treatments they need.

Students implement prophylactic treatments to stop minor disorders in their development, caries and their after-effects via simple restoration procedures, such as pedodontic prostheses or spacing maintainers to maintain the functional integrity of the dental arches.

Emergency treatments are performed by interns and teachers.

Students are encouraged to work in pairs.

Meetings are held each week for students to summarise the analysis of treatments before their peers and the teachers.

6. Assessment Methods

A final written examination for the theoretical courses, and the sum of the year's grades for the tutorials and the pre-clinical lab work.

During the internship at the hospital, the students' skills are assessed throughout the year, and a final assessment is made at the end of each treatment.

7. Strengths

At the hospital, each child is under the global care of an intern and of the intern's reference practitioner, who is responsible for following up on the treatment. In each hospital department, the members of teaching team meet in the course of at least one shift and coordinate the training.

8. Weaknesses

Long-term follow-up is difficult. Many patients "fall out" of the general care system, and only seek advice for emergency treatments. In addition, when students move on to the next academic year, their shifts are on different days in the hospital departments, and the children therefore are cared for by other interns, so that managing this change is difficult.

There is too little problem-solving teaching and too little personal work by the students due to their heavy course load (and students do not attend lectures much, as in all other disciplines).

9. Innovations and Best Practices

- Assessment grids are currently being developed for training assessment purposes.
- Prevention assessments are currently being developed at the hospital: eating habits questionnaires and fluoride intake assessment forms (co-operation with the prevention section);
- Optional course in the TCEO1 curriculum: "Children's early polycaries and temporary tooth traumas," in-depth study course (bibliographical work, analysis of video documents, etc.).

10. Plans for Future Changes

Concerning pre-clinical course work, lectures should not exceed 10 hours. Reference documents should be handed out to the students. At the end of this initial course, an assessment test will be scheduled. Another course, organised in group sessions of 15 students and monitored by a tutor and an observer, could be focused on learning through solving problems and opening up to new information techniques, and assessed on the basis of the grades obtained throughout the year.

At the hospital, TCEO1 student will be guided to take care of uncooperative/resistant children, and emergency cases.

Section 10 : Public Dental Health and Prevention

10.1 Epidemiology

Dr. Catherine GUIVANTE-NABET, e-mail : cathygn@club-internet.fr

Introduction

This course is designed for students in the DCEO1 and DCEO2 curriculum's, as part of the Public Health course.

Primary Aims

Its purpose is to help students read Odontology articles with a critical mind, by offering them a set of methods for epidemiological studies (descriptive and etiological methods, clinical tests, assessments, etc.).

Upon reading a publication, students should be able to identify the different stages, the strong points and weak points of a given study.

Main Objectives

Upon reading a publication, students should be able to recognise the features of an epidemiological study.

Type (descriptive, etiological, evaluative, experimental). - Sampling, population. – Factors and criteria used for making a judgement. - Different biases (selection, measurements, confusion). – Statistical methods. - Discussion and findings. - Bibliography.

Hours in the Curriculum

10 hours of lectures and 6 hours of interactive lab work.

11. Methods of Learning/Teaching

Lectures in a lecture hall - introduction to the major principles mentioned above. Work on publications in small groups: critical analysis of articles concerning epidemiological and etiological surveys in odontology and articles concerning assessment in odontology (clinical tests, assessment of diagnostic methods, diagnostic consistency). Medical and odontological themes.

12. Assessment Methods

Final written examination: critical analysis of a structured and simplified article, directed by questions. Oral presentation of an article analysis.

13. Strengths

Training future practitioners to find the appropriate literature based on their needs and on the validity of the studies.

14. Weaknesses

Insufficient time for a thorough study of the statistical methods.

In addition, the students' understanding of the articles depends on their respective knowledge of the English language.

15. Innovations and Best Practices

Assessment by the students of the academic contents and improvements.

16. Plans for Future Changes

10.2 Prevention

Dr. Marysette FOLLIGUET, e-mail : folligue@odontologie.univ-paris5.fr

1. Introduction

This course can be taken by students in :

- PCEO2 in the Cariology set of courses.
- DCEO1 and DCEO2 in the Public Health module.
- DCEO3 in the Prevention and Ergonomics module.

2. Primary Aims

The purpose is to teach students the methods for preventing caries, asepsis, and the European Community public health actions.

3. Main Objectives

Etiopathogenesis of carious Pathology,

- Patient care depending on his/her carious risk and age,
- Different carie-prevention strategies,
- Risk prevention in the practitioner's office and the various nutrition factors.

4. Hours in the Curriculum

40 hours of lectures and 15 hours of interactive lab work.

5. Methods of Learning/Teaching

Lectures.

Discussions in small groups about clinical cariology cases.

Creation of a cariology file by each student individually (clinical examination and X-rays, assessment of cariological risk factors).

Work with clinical chairs.

6. Assessment Methods

Final examination:

Written part: based on a clinical case.

Oral part: Presentation based on the students' cariology files.

7. Strengths

Through the set of cariology courses set up 5 years ago, the carious disease can be studied as a whole, involving several areas of expertise (histology, biochemistry, anatomo-pathology, Endodontics and Conservative Dentistry, Paediatric Dentistry, public health).

8. Weaknesses

- The French health system is not focused on prevention. It is thus difficult to draw the students' attention to this subject.

9. Innovations and Best Practices

Clinical examination and assessment of risk factors in hospital odontology departments.

10. Plans for Future Changes

10.3 Professional orientation

Dr. Marysette FOLLIGUET

Pr. Jean-Charles DETRUIT

1. Introduction

This course is designed for TCEO1 students.

2. Primary aims

2. The purpose of this course is to make the professional practice of future practitioners easier by addressing the following concepts:

- The practitioner, a key player in health;

- Computers and their day-to-day;
- Setting up and daily organisation of the dental practice;
- Professional liability;
- Bases for choosing materials and equipment in daily practice;
- Public health actions.

3. Hours in Curriculum

50 hours of lectures and 100 hours of lab work.

4. Methods of Learning/Teaching

A seminar on each theme with contributions from guest lecturers, experts in their fields.

Assessment at the end of each seminar.

Public health actions outside the school and oral presentation of the public health action;

Practical presentation of all the problems encountered in setting up a dental practice.

Public health actions outside the school in different institutions:

Hospitals (geriatrics, maternity, pediatrics),

PMI (agencies for the care of mothers and children),

- Primary schools,
- Social Security screening centres,
- Services for people in difficult economic situations,
- Vacation day care centres for school age children.

5. Strengths

This is the only school in France that practices a global approach to the dental practice, through the following courses:

- description of the etiopathogeny of caries;
- prescription of the appropriate fluoride dosage;
- how to carry out an individual public health programme for prevention and education on oral hygiene and nutrition;
- participation in a public health programme of the European Community;
- cariology evaluation;
- determination of the patient's carious risk.

Optional:**Odontology and sports**

Dr. Jean-Claude TAVERNIER

1. Introduction

This course is taught to DCEO3 students.

2. Primary aims:

An approach of the specific problems of athletes.

3. Main Objectives

- Knowing the relevant practice area - Definition of the different parameters concerning the specific nature of high-level athletes.
- physiology
- psychology
- sociology
- The practitioner's role in the Public Health team in favor of athletes.
- Definition of athletes' needs and organisation of appropriate actions for prevention, follow-up, emergency.

4. Hours in curriculum

40 hours.

5. Methods of Learning/Teaching

Lectures and 10 hours of tutorial (examination of athletes, treatment plan, prevention).

6. Assessment Methods:

Preparation of a paper

Oral presentation: 10 min.

Discussion with the entire panel: 10 min.

Contents of the lab work

- Follow-up on the papers
- Clinical oral examination of high-level athletes and creation of a database for use in a survey.
- Other examinations used as diagnosis support: panoramic X-rays, scanner, IRM.
- Prevention: presentation and prescription of the various types of mouth guards.

Section 11: Restorative Dentistry

11.1 Dental Materials

Pr. Michel DEGRANGE

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1. Introduction

The main part of the Dental Materials course is individualized. Almost all therapies in dentistry commonly use many types of materials and biomaterials in the different treatment sequences. There is a broad variety of dental materials used according to their chemical nature (organic, mineral, metallic or composite) and to their structure, as the practical or clinical behavior of a material is closely related to its nature and structure.

2. Primary aims

- To know how to select the right material for a given application.
- To know how to handle it for optimized and predictable results.

3. Main Objectives

- To know the principal factors affecting the biocompatibility of a dental material
- To identify the different mechanisms in the degradation of biomaterials in the oral environment (i.e., corrosion factors, wear and tear, fatigue, solubility, etc.)
- To know the specific characteristics of the 3 principal classes of materials (polymers, metals and ceramics) according to their structure (i.e., brittleness, elasticity, plasticity, visco-elasticity, flow, etc.)
- To know the specific requirements for the different categories of biomaterials (i.e., luting cements, anterior or posterior restorative materials, bone substitutes or orthodontics wires, etc.)
- To learn how to handle the principal materials used in restorative dentistry.
- To master the adhesive technique (especially the bonding mechanisms to dental hard tissues.)
- To control the dimensional variations occurring during the different stages of an indirect restoration.

4. Hours in the curriculum

PCEO 2:

- Lectures: 19 hours (13 hours on the basic aspects of biomaterials and 6 hours for an introduction to the technological chains in prosthodontics as required by the department of fixed prosthodontics).
- Lab work: 4 x 1½ hours (topics: crystallography and mechanical properties of binary alloys, characteristics and handling of alginates, stones and waxes)

DCEO 1

- Lectures: 18 hours (15 hours on restorative, luting and prosthodontic materials plus 3 special labs in the lecture hall concerning synthesis topics)
- Lab work: 5 x 2½ hours (topics: evaluation of dimensional changes during the setting (hardening) of elastic impression materials and stones; comparative mechanical properties of GICs and composites, corrosion behaviour of amalgams, dentin bond strength)
- Other lab work: 2 x 1½ hours (selecting a restorative material, selecting a luting material)

DCEO 2

- Lectures: 9 hours (biocompatibility, prosthetic and implant alloys, ceramics, etc.)
- Lab work: 4 x 1½ hours (topics: comparative evaluation of the seal of direct and indirect restorations, criteria of placement and replacement of a restorative material, selecting a shade, how to optimise an impression)

5. Methods of Learning/Teaching

The methods are relatively conventional. Each lecture begins with course objectives and tries to follow the same general scheme. In theory, the lectures precede the lab work. In practice, as only a few students attend the lectures, and as the others do not learn the topic before the lab sessions, half an hour is generally spent (and lost) to present the topic.

6. Assessment methods

Theoretical courses: a 1½-hour written examination including from 5 to 7 short questions. The total number of points for each question is given. The questions necessarily concern the main objectives of each year's course work.

Lab work: A grade is given at each session. This grade is the average of 3 single grades corresponding to a) the manipulation b) the understanding of the problem as assessed in a discussion with the student c) a short report.

Students receive a questionnaire concerning the biomaterials course at the end of the programme. This course evaluation makes it possible to pinpoint problems or difficulties. The results of the evaluation are taken into account in modifying the course.

7. Strengths

- A training room that is specially equipped for the evaluation by the students of some of the main properties of biomaterials.
- A small but close-knit teaching team.

8. Weaknesses

- The lack of consultation and exchange with the concerned clinical specialties.
- The difficulty for students to understand a topic without seeing its practical/clinical applications.

9. Innovations and best practices

- Lab work of DCEO 1 and 2

10. Plans for future changes

- More consultations with the clinical specialties
- Gradual replacement of theoretical courses by written documents, CD-ROM or DVDs
- More lab work and demonstrations.

11.2 Conservative Dentistry and Endodontics

1. Introduction

The course work of Conservative Dentistry and Endodontics is a series of sub-sets that are included within the various study modules or fields making up the PCEO2. The central theme of the PCEO2 is the dental system within its oral environment, from its normal state to its pathological state. The course work is dedicated to the acquisition of basic knowledge and it constitutes a prerequisite for the course dealing with the general principles of dental therapies given the following year, in D.C.E.O. 1.

Pre-clinical training

a) 2nd year (PCEO2)

Dr. Florence Toumelin

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Cariology

Primary aims

Diagnosis of caries lesions, as well as the main clinical forms encountered in young adults and the elderly.

General objectives

At the end of this course, students must be capable of:

- Identifying caries lesions on tooth cross-sections and X-ray documents
- Listing the etiopathogenic factors in connection with the caries disease
- Determining individual risk factors
- Presenting a cariology diagnosis file.

Hours in the curriculum

Lectures: 4 hours

Lab: 10 hours

Methods of Learning/Teaching

- Lectures: collective conferences, with duplicated lecture notes
- Pre-clinical work and lab work in groups of 15 students

Pedagogical tools

- Anatomic and histological cross-sections of decayed teeth with the corresponding X-ray prints
- Retro-coronal shots of the students, taken in the departments
- Negatoscopes and magnifying glasses for reading
- Bibliographical Files
- Slide Shows

Assessment Methods

- Grades:
- Qualitative evaluation for the exercises in reading the cross-sections and X-rays
- Three-tiered quantitative evaluation for the drafting of the cariology report

Strengths

- Early exposure of the students to the management of carie risks
- Exposure to the need for prevention from the start of the curriculum
- Multidisciplinary, theoretical and clinical training

Weaknesses

- The students are their own models, which constitutes a bias in the population sample observed
- No in-depth clinical study correlated to the X-ray study
- No bacterial testing for susceptibility to caries

- Quality of the X-rays for radio-diagnostics to be improved

Innovations and Best Practices

Preparation of a medical diagnosis file including a study of eating habits, some testing for susceptibility to caries, and lesion detection by X-ray.

Plans for future Changes

- Illustrated presentation of several typical clinical cases
- Harmonisation with the courses given in the dental clinics
- Development of computer-based course material

Restorative Dentistry

Dr. Léonard LUSARDI

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Primary aims

Develop the restorative dentistry students' gestural skills, by gradually introducing rotary instruments and dental materials.

General objectives

- At the end of the course, students must be capable of:
- Correlating basic data on dental tissue (enamel, dentin, pulp) with restorative dentistry procedures
- Listing the risks of iatrogenic lesions of the dental tissue during restorative dentistry procedures
- Using contra-angles and hand pieces, and the corresponding small rotary instruments, with efficiency and accuracy
- Working with the right positioning and proper posture
- Applying the principles of ergonomics and instrumental maintenance
- Explaining the general principles for preparation and restoration when using plugged materials: stability, retention, resistance.

Hours in the curriculum

Lectures: 2 hours

Tutorial and pre-clinical lab work: 15 hours

Methods of Learning/Teaching

Lectures: collective conferences for the entire graduating class, with duplicated lecture notes: theoretical/clinical correlation in Conservative Odontology

Lab work in groups of 17 students (alternating work in half-groups):

Practical exercises: the student must complete the following tasks:

Standard cavity preparations with specific dimensions on resin cylinders: making of various non-retentive shapes (tapered) and retentive shapes (undercut and by friction on parallel sides) along one axis then along two axes in space

Cavity preparations with specific dimensions on artificial teeth, on site 1 (fissures) and site 2 (contact area)

Spacing, boxing and sealing for recreating interproximal contacts

Site 1 and 2 reconstruction using the technique of modelling by removal and addition: manipulation of dental wax, silver amalgam and composite resins.

Pedagogical tools:

Dental catalogue, audio-visual illustrations (slides), typed course material

Assessment methods

Grades for the work done, with a qualitative and quantitative evaluation of the work completed.

Evaluation chart for each session

Strengths

Introduction to dental instruments from the start of the curriculum

Gradual teaching, which may not seem very interesting initially, but that enables students to evaluate their gestural skills, and motivates them for future contact with natural teeth at the time of clinical approaches.

Weaknesses

Lack of means for equipment purchase and renewal

Lack of staff: only one teacher per group of students to distribute the equipment, make presentations and demonstrations, supervise and evaluate, then collect and check the equipment.

Poor-equipped laboratory facilities : working stations without suction equipment, water, or gas (faucet compliance), and out-of-order micromotors.

The course is short, which is incompatible with the need to respect the students' varying speed at acquiring new knowledge.

Innovations and Best Practices

- Recent introduction of preparations with specific dimensions that are well-adapted for developing accuracy
- Introduction to the concept of preparation stability, retention et resistance via endodontics and conservative dentistry

- Comparative manipulation of wax, amalgam, and composite in identical situations

Plans for future Changes

- Improvement of the teaching material : making of a digital synopsis and of a CD-ROM
- Investment in video equipment for analysing the students' work positioning
- Renewal of the lab room equipment (working stations fitted out with water, gas, suction, full range of speeds, micromotors in working order).

3rd year (DCEO₁)

Dr. Eric BONTE, e-mail: bonte@odontologie.univ-paris5.fr

Pr. Jean-Jacques LASFARGUES, e-mail: lasfargu@odontologie.univ-paris5.fr

Introduction

The Endodontics and Conservative Dentistry course is a complete discipline in which Conservative Dentistry and Endodontics are two sub-sets.

The course work is dedicated to the acquisition of basic clinical knowledge in cariology and in endodontics and it constitutes a prerequisite for the implementation of the clinical treatments in Endodontics and Conservative Dentistry.

Conservative Dentistry

Primary Aims

At the end of this course, students must be capable of:

- Preventing, diagnosing and treating the caries disease
- Treating the after-effects of the caries via dental restoration

Main Objectives

At the end of this course, students must be capable of:

- evaluating the patient's predisposition to caries
- diagnosing a caries lesion and describing its characteristics (location, nature, possible complications)
- monitoring the diagnosed caries lesions depending on the nature of their evolution (active or not active)
- tying the diagnosis to the nature of the clinical intervention, whether non-invasive (preventive treatments) or invasive (restorative treatments).
- prescribing and implementing non-invasive therapeutic protocols (prevention)

- prescribing and implementing invasive restorative protocols suited to the clinical situation, namely:
 - 1- curettage of the decayed tissue while preserving the vitality of the pulp
 - 2- complying with and applying the principles for cavity preparation and for the protection of the dental pulp
 - 3- listing the various restorative materials based on aesthetic, functional, duration and cost objectives
 - 4- implementing the adhesive and non-adhesive restorative dental materials, as well as the manipulation techniques that are specific to each material.

Hours in curriculum

- lectures: 10 hours
- Lab work: 9 hours (3 3-hour sessions)
- Application course: 37½ hours (15 2½-hour sessions)

Methods of Learning/Teaching

- Lectures: collective conferences for the entire graduating class, with duplicated lecture notes
- Lab work and practical exercises in groups of 17 students: the students must complete the following tasks:
 - To isolate a group of teeth with a rubber dam
 - To make cavity preparations and the corresponding fillings, on dummies and in clinical position, in order to treat simulated caries lesions on sites 1, 2 or 3 and in stages 1, 2, 3 or 4.
- Pedagogical tools:*
 - Duplicated lecture notes and course material for the courses and the lab work
 - Slide shows and video script for the lab work and practical exercises
 - Clinical videocassettes made by the faculty of the department
 - Individual working stations for practical exercises allowing to simulate work in clinical position.

Assessment Methods

- Lectures : summative evaluation by a written exam (1 hour, coefficient 1)
- Lab work and practical exercises: grades throughout the year and exam grades
- Posture, care, hygiene and upkeep of the working station
- Qualitative evaluation of the work accomplished via self-evaluation forms and comprehension evaluation via written and oral questions
 - Certificate evaluation by grading the main work carried out during the year, and in an exam taken in limited time

Strengths

- The lab work sessions come after the lectures, which are given at the beginning of the year.
- The lab curriculum includes discussion sessions, which serve to improve the students' comprehension of the tasks they are to carry out.
- Availability of a well-equipped and functional lab room
- All lab work is carried out in clinical simulation, on artificial dental arcades, with an operative field, using high-speed and low-speed rotary instruments, with surgical sprays and suction.
- The students' speed at acquiring new knowledge is respected since the sessions are spread out over time, and since time is provided for slower students to catch up on late work.
- The reference document for the subject matter (duplicated lecture notes) is available to each student.
- Audio-visual synopsis (video cassettes and slide shows) and detailed manuscript of all the lab sessions and lecture notes.

Weaknesses

No modelling of the caries lesion for lab work

- Work mainly carried out on artificial teeth that are not suited for adhesive techniques on dental tissues.
- Criteria for the certification evaluation of the student to be improved.
- High maintenance cost for lab rooms and instruments maintenance, and for the renewal of consumables.

Innovations and Best Practices

This is an original programme, based on the modern concepts of Conservative Odontology, with an emphasis on prophylactics and adhesives. The SISTA classification in sites and stages of the

caries lesions is used in replacement of Black's classification and principles. The starting point is the clinical situation and not the restorative material. For each of the three sites (1, 2, 3), the restoration protocols are discussed chronologically, starting with the initial lesion and ending with the extended lesion (stages 1, 2, 3 and 4). Priority is given to the restorative protocols in which the preparations are the least invasive and in which plastic materials are associated to adhesive techniques.

- Acquisition of an operative microscope with a video connection for demonstrations and the magnified observation of the work carried out by each student individually.

Plans for Future Changes

To transfer the duplicated reference document onto a digital medium.

To install video network equipment at each work station in the lab.

ENDODONTICS

Introduction

At the end of this course, students must be capable of diagnosing and treating diseases affecting the pulp and the periapical tissues. They must particularly know how to prescribe and carry out an initial endodontic treatment in compliance with the known practices of endodontic treatments. The emphasis is on the prevention of endodontics failures.

Primary Aims

The primary aim is to prepare the students to the clinical implementation of the endodontic treatments required in the context of the global treatment of a patient.

Main Objectives

At the end of this course, students must be able to:

- Diagnosing various diseases of the pulp (pulpitis and necroses) based on the categories classified by the W.H.O., and particularly of carrying out a differential diagnosis between reversible and irreversible pulp damage.
- Connecting the diagnosis and the type of endodontic intervention required: pulp capping, pulpotomy, pulpectomy, root canal treatment.
- Indicating and contra-indicating the endodontic treatments based on the patient's clinical situation and general condition.
- Implementing the endodontic treatment protocols for vital and non-vital teeth.
- Implementing restoration protocols for devitalised teeth.

Hours in curriculum

- Lectures: 15 hours
- Discussion sessions: 9 hours (three 3-hour sessions)
- Lab work: 47½ hours (nineteen 2½-hour sessions)

Methods of Learning/Teaching

- Lectures: collective conferences for the entire graduating class, with duplicated lecture notes
- Lab work and practical exercises in groups of 17 students: the students must complete the following tasks:
 - Isolate a group of teeth with a rubber dam
 - Temporarily reconstitute a broken tooth using copper bands and filling cement, in preparation of root canal treatment.
 - Making endodontic pathways on extracted natural teeth positioned in a dental arch.
 - Identify then use the manual and rotary root canal instruments in simulated resin root canals.
 - Making cavity preparations for pulp chambers and root canal by lateral condensation in clinical position, first on artificial teeth, then on natural teeth.
 - Checking the various phases of the root canal treatment by examining the X-rays taken before, during and after the operation.
 - Reconstruction of a devitalised tooth with plugged materials using non-adhesive and adhesive techniques.

Pedagogical tools:

- Duplicated lecture notes and course material for the courses and the lab work
- Slide-shows and video script for the lab work and practical exercises
- Videocassettes of clinical work performed by the faculty of the department
- Individual working stations for practical exercises allowing to simulate work in clinical position.

Assessment Methods

- Lectures : Certificate evaluation by a written exam (1 hour, coefficient 1)
- Lab work and practical exercises: grades throughout the year and exam grades
- Posture, care, hygiene and upkeep of the working station
- Qualitative evaluation of the work accomplished via self-evaluation forms and comprehension evaluation via written and oral questions
- Summative evaluation by grading the main work carried out during the year, and in an exam taken in limited time

Weaknesses

- The patient dimension is not taken into account in the lab work (pulp inflammation, pain, stress)
- It is difficult to obtain sufficient amounts of natural teeth for students to practice on
- High maintenance cost for lab rooms and instruments maintenance, and for the renewal of consumables.

Strengths

- The lab work sessions come after the lectures, which are given at the beginning of the year. The lab curriculum includes discussion sessions, which serve to improve the students' comprehension of the tasks they are to carry out.
- Availability of a well-equipped and functional lab room
- The lab work is carried out gradually, first at the workbench, then in clinical simulation, on artificial dental arches, with an operative field, using high-speed and low-speed rotary instruments, with surgical sprays and suction. X-rays are taken prior to, during and after the operations.
- The students' speed at acquiring new knowledge is respected since the sessions are spread out over time, and since time is provided for slower students to catch up on late work.
- The reference document for the subject matter (duplicated lecture notes) is available to each student.
- Audio-visual synopsis (videocassettes and slide shows) and detailed manuscript of all the lab sessions and lecture notes.

Innovations and Best Practices

- Going from the geometrical preparation concept to the cavity preparation concept.
- Creation of a single, all-purpose and autoclavable endodontics box that can be used in clinical work.
- Acquisition of an operative microscope with a video connection for demonstrations and for magnified observation of the coronal pulp cavity, particularly in the search for root canal entries.

Plans for Future Changes

- To transfer the duplicated reference document onto a digital medium.
- To install video network equipment at each work station in the lab.
- To use artificial teeth with an endodontic anatomy that is true to life.

b) 4th year (DCEO₂)

Pr. Françoise MELCER;

Dr. Denis BOUTER E-mail : bouter@odontologie.univ-paris5.fr

Introduction

The Conservative Odontology and Endodontics curriculum is part of a specific field of expertise that includes lectures, discussions groups and lab work.

Primary Aims

- To expand clinical knowledge in the areas of prevention, diagnosis and treatment of pulp diseases and their complications, on the one hand, and of dental anomalies and non-caries lesions, on the other hand.
- To train the students in decision-making and in dealing with the possible complications of dental treatments, more specifically with respect to the renewal of coronal fillings and of endodontic re-treatment.

Main Objectives

To bring the students knowledge in the following areas:

- Preventive and curative identification and treatment of non-carious lesions, hyperesthesia of the dentin, abrasions, erosions, cracks, fractures, dyschromias, dental dysplasias.
- Management of endodontic emergencies and analgesic, anti-inflammatory and anti-infectious prescriptions in endodontics
- Ageing of the restorations and managing of the replacement of dental restorations
- Evaluation of endodontic treatments and managing endodontic re-treatment through conventional root canal work and surgical treatment
- Management of the complications and incidents occurring during endodontic treatments, including the treatment of root resorptions
- Development of the gestural training and technical mastery in the implementation of more complex operative procedures, including composite stratification, indirect restoration, mechanically-assisted techniques of root canal preparation and treatment
- Development of the students' capacity to self-evaluate their own practices and confront students to elementary approaches to research, through a multidisciplinary Conservative Odontology / Dental Materials course.
- Training of the students to practising the critical analysis of new concepts and operating techniques, for subsequent use in their profession.

Hours in curriculum

- Lectures: 18 hours
- Lab work: 4½ hours (three 1½-hour sessions)
- Application course: 17½ hours (six 2½-hour sessions)

Methods of Learning/Teaching

- Collective conferences for the entire graduating class, with duplicated lecture notes
- Lab work: Presentations with visual aids in small groups of students, with clinical problem solving exercises on the replacement of restorations.
- Application course: The students must complete the following tasks in vitro:
 - Semi-direct restorations of composite resin on artificial and natural teeth
 - Aesthetic construction of a dental crown by direct stratification of composite resin.
 - Mechanically-assisted (continuous rotation) root canal preparations and filling using condensed gutta-percha techniques (thermocompacting, Thermafill, B system)
- *Pedagogical tools:*
 - Simulation work on resin root canals and extracted natural teeth
 - Artificial teeth set up in a dental arch
 - X-ray evaluation of endodontic treatments
 - Evaluation of the water tightness and marginal suitability of the restorations in the Dental Materials lab.

Assessment Methods

- Lectures: Certificate evaluation by a written exam (1 hour, coefficient 1)
- Lab work and practical exercises: grades of the students' work throughout the year

Strengths

- Existence of a reference document. The students can see in the laboratory their own results in terms of water tightness. They can better understand the pros and cons of the various available restoration methods.

8• Weaknesses

- The number of recently extracted natural teeth to be supplied. The large quantity of composite materials to be supplied each year. Work evaluation charts to be improved.

9• Innovations and Best Practices

- Mechanised endodontic techniques are a recent addition, as are semi-direct restoration techniques. Evaluation of the restorations in the Dental Materials lab.

Plans for Future Changes

- Transfer of the reference document onto a digital medium
- Evaluation in the Dental Materials of the apical water tightness of the endodontic treatment using the same principle as for Restorative Dentistry
- Live video demonstrations for certain stages
- Implementation of a more specific evaluation grid for each lab session

4th year (DCEO₃)

- No individualised action in conservative odontology and endodontics
- Participation in the certificate of clinical and therapeutic synthesis
- see programme manager, Pr. Christian Knelleesen

5th year (TCEO₁)

- No individualised action in conservative odontology and endodontics
- Participation in the TCEO1 multidisciplinary seminars.
- see programme manager, Dr. Nicolas EID

OPTIONAL PROGRAMME

For this section, see the optional programmes manager, Dr. Cathy GUIVANTE

- Participation of conservative odontology and endodontics in various optional courses from DCEO2 to TCEO1
- Special clinical option in advanced conservative odontology and endodontics. Programme manager, J.P. CAMUS

Clinical training

The students perfect their clinical skills in the three dental clinics set up in hospitals and in one dental clinic located in a specific dentistry building within Paris proper. The restorative and endodontics treatments are part of the comprehensive treatment plan. Each year, about 15 of the students work in the hospital clinics and 40 in the Paris City building.

Various tasks are distributed to the students in each year of their studies.

The students of PCEO2 and DCEO1 are mainly committed to assist the DCEO2, DCEO3 and TCEO1 students.

Strengths

Full integration of the department into a comprehensive patient care setting.

Weaknesses

Because of the different locations of the dental clinics outside the academic building, there are discrepancies and disparities in the staff. It seems that the respective staffs are too small to ensure an efficient supervision of the students.

Innovations and Best Practices

Introduction of the updated concepts of restorative and endodontic treatment, such as, for instance, adhesive restoration and the use of light speed NITI technique in endodontics.

As a consequence of a teacher and student exchange initiated in 1995 with the Endodontic Department of the “Centre for Oral Health Sciences” of Malmö University a procedure of student training evaluation has been introduced at the Charles Foix hospital dental clinic (Dr. Lévy). Furthermore a follow-up procedure according to the scientific work developed by C. REIT and U. SJÖGREN was courteously given by the School of Odontology of Malmö and is currently being applied at the Charles Foix hospital dental clinic.

Plans for Future Changes

To finalise the implementation of infection control according to STRINDBERG with the co-operation of the Malmö Dental School at the Charles Foix hospital dental clinic. It is expected that this innovation, which was welcomed by the dental students, will be implemented in the others dental clinics of the School.

To introduce the PCEO2 early to the patient to evaluate the risk in cariology.

11.3 Prosthodontics (Fixed and Removable Prosthodontics, Edentulous State)

a) Simple Prosthodontics (Fixed and Removable Prosthodontics)

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Introduction

During the students' training, which spans 6 years, the Fixed Prosthetics course is separated into two major themes as follows:

- The pre-clinical course, which begins in the second year (PCEO2) and continues until the end of the third year (DCEO1). This course concerning fixed prosthetics includes a number of lectures, lab work and practical exercises.

The students first enter the dental clinics at the start of DCEO1, but they are not entrusted with the global care of patients. This is their first contact with the hospital environment.

- The clinical part of the course begins in the 4th year (DCEO2) and ends in the 6th year (TCEO1). It takes place in four very different Odontology wards. The Lectures, labs and practical work in fixed prosthetics continue until the end of DCEO3.

Primary Aims

At the end of the pre-clinical course, every student must be capable of:

- grasping, understanding, mastering and implementing the main concepts and elementary stages relating to fixed prosthetics.
- At the end of the clinical course, every student must be capable of dealing with a patient's global prosthetic needs, which includes:
- study and design of the restoration of a single damaged tooth, of a short-span edentulous area and of a long-span or complex edentulous area,

- making of a single prosthetic appliance (including any possible reconstruction) and of a short-span bridge.

Main Objectives

By the end of this module students should be able to:

- Identify in detail the patient's actual prosthetic need
- Formulate relevant treatment objectives
- Define the essential criteria for a change requested by a patient
- Based on these criteria, make a list of intermediate objectives, allowing to determine the means (procedures and techniques) towards the goal that is being sought.
- Study and design the treatment for a single-tooth restoration, for a short-span or a long-span edentulous area
- Plan a prosthetic treatment by choosing efficient but not unnecessary procedures
- Understand and master the implementation of all the prosthetic stages that result in the placement and final integration of a fixed prosthetic appliance, of an implant-supported or supra-implanted prosthetic appliance.

Hours in the Curriculum

The total course load for P2, D1 and D2 amount to a total number of 41 hours plus 20 hours of courses on implant-supported prosthetics in D3.

- With respect to lab work:
 - 37 hours in P2
 - 46 hours in D1 and 46 hours in D2
 - 10 hours in D3 dedicated to implant-supported prosthetics

This represents a total of 139 hours of practical work and 61 hours of theoretical courses concerning fixed and implant-supported prosthetics

Methods of Learning/Teaching

- The lectures are mainly designed and given using computers displaying video presentations saved on CD-ROMs.
- The lab work also uses computerised presentations, which are designed as perfect matches with the contents of the lectures. These new computer tools allow students to receive a common message from each assistant. For each presentation, the entire sequence is illustrated stage by stage with images taken on pedagogical models. Before these presentations, there is a systematic presentation in each session of the available pedagogical materials, of the general and specific objectives of the course, of the assessment criteria and methods. Thanks to the flexibility of this

type of media, every student can consult one or more stages of the prosthetic work that has just been presented, whenever they need to during the course.

The assistants who participate in this course must reply to the students' various questions and be available to them for the live demonstration of any of the specific stages of the requested prosthetic work.

- In the dental clinics, the students' practical training concerning fixed prosthetics takes place mainly through direct chairside demonstrations.

Assessment Methods

- As concerns the students' evaluation with respect to the lectures, there is a 1-hour exam each year from DCEO1 to the end of DCEO3.
- Concerning lab work, each student is evaluated based on a grid of specific items chosen by a group of experts (teachers). The design of these evaluation grids was first approved by the entire faculty of this particular field of expertise, based on a calibration test.
- Concerning clinical work, a log book allows the evaluation of both the required level of skill and of the minimum number of procedures required to reach such a level.

Strengths

- In the lab, the use of computerised synopses has made it possible for all the classes of students to be given a single and consistent description of the general and specific objectives of the course, and of the assessment criteria and methods required for the work requested. The computer tools also provide students with a flexible media that can be consulted at all times during the session.
- The practical exercises evaluated thanks to precise evaluation grids make it possible for students to reach their general and specific objectives with greater precision. In addition, this grid method allows the students to self-assess their progress.

Weaknesses

- This very new teaching method is not yet entirely complete, given that all the trainers must be trained themselves. Obviously, this inevitable training period requires time.
- In the dental clinics, given the way the hospital facilities are currently organised, we cannot set up a sufficient number of specific clinical demonstration sessions.
- The students' clinical training is made difficult due to the number of hours of clinical work in TCEO1 combined with an insufficient number of chairs.
- The lack of multidisciplinary clinical staff also causes a lack in their clinical training.

Innovations and Best Practices

- In the dental clinics, it would be extremely beneficial to the students to have the opportunity to take complete charge of patients in need of complex prosthetic treatment.
- Clinical demonstrations broadcast via cameras on computer screens would make it possible to emphasize clinical and practical training with respect to fixed prosthetics. This could partly compensate for the fact that there currently is little clinical time during student training, and particularly in DCEO1 and TCEO1. A complete course on fixed prosthetics, including internships in laboratories, given from DCEO1 to TCEO1 would represent a considerable improvement for the students' comprehension of the various stages of the technological chain of prosthetics.
- The clinical instruction concerning fixed prosthetics given in Odontology departments should include work on clinical reasoning based on proof (clinical evaluations).
- Implementation of student participation in clinical evaluations focused on themes defined by a group of experts. Such evaluations would represent a very enriching new avenue in the assessment of the validity of a given technique or material and, more specifically, in the evaluation of the longevity of restorations.

Plans for Future Changes

- In the pre-clinical course, a pre-clinical room equipped for simulation on dummies will open in September 2000. This room will include 18 entirely computerised work stations and a teaching station allowing to perform demonstrations directly in the simulation chair. Each student will have access to the room starting in DCEO1. The full computerisation of this new fixed prosthetics training room will enable students to perform the practical work of their choice thanks to a scrolling menu containing a list of the themes chosen for their year. They have access to this list from their workstation as it is equipped with a monitor, a keyboard and a mouse.
- Training by solving problems
- Tutoring in the dental clinics

Removable prosthodontics

Pr Danielle BUCH

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Introduction

The teaching programme for partial removable prosthodontics is included in two sections :
Treatment and restoration of partial edentulous jaws with removable appliance

Treatment and restoration of partial edentulous jaws with removable partial denture associated with fixed prosthodontics or dental implant.

Main objectives

- By the end of the course, the student should be able to meet aesthetic and functional requirements of edentulous patients by carrying out composite prosthodontics.
- Intermediate objectives
- Since a removable partial denture has been proposed, the student should be able to :
 - Describe the type of edentulousness
 - Justify his choice removable partial denture versus fixed prosthodontics or dental implant
 - Select the relevant equipment and material for the appliance to be made
 - Register occlusal information specific to this treatment
 - Carry out a prosthetic framework in order to ensure durability in relation to soft biologic tissue and TMJ
 - Perform a treatment meeting the patient's requirements in phonation, aesthetic and comfort

Hours in curriculum

Lectures

P2 2h

D1 17h

D2 10h

T1 6h

Post graduate 24h

Laboratories

P2 20h

D1 50h

D2 18h

D3 20h

Post graduate 24h

Optional 215 h

Total 406 h

Teaching and leaning methods

Case-based lectures

Tutorials in small students groups and lecturer as a tutor

Laboratories and demonstration

Clinical training

Recommended literature

Case-based learning

Topic-based learning

Assessment methods

Preclinical:

Final written examination each year

Continuous evaluation

Clinical training:

The student are assessed on completion of temporary resin base partial denture and removable partial denture with metal frame work.

Strengths

Relevance between lectures and laboratory training

Weaknesses

Lack of staff calibration, especially in clinics

Junior staff are not enough prepared. Consequently, discrepancies arise between pre clinical teaching and clinical training.

Managerial problems with regard to the burst of institution in different departments.

Patient selection is deficient in relation to the complicated French hospital system

Difficulty for students to adjust knowledge with clinical practice in dental clinic.

Innovations and good practice

Calibration of junior staff has been implemented since last year.

Improvement of student teachers inter activity within a clinical framework

Department reorganisation including staff and improving functioning.

b) Edentulous State

Pr. Jean-Marie RIGNON-BRET

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Introduction

The programme develops the principles involved in the assessment and construction of full dentures. The course consists in teaching the theoretical and practical skills necessary to undertake upper and lower dentures both in simple and in complex cases. The course is in two parts:

- Pre-clinical course work (lectures, tutorials and work on dummies) over four years with increasingly difficult cases in the management of the edentulous treatment.
- Clinical course work (providing of full dentures in the dental clinics) over three years for which the students are evaluated based on specific criteria.

Furthermore, a post-graduate course is given, particularly in the context of an advanced studies certificate and a university degree.

Primary aims

- Knowledge of the theoretical basics and the practical skills necessary to undertake full dentures.
- To analyse and understand different prosthodontic options in full denture treatment.

Main objectives

Acquisition of the knowledge and skills required to:

- Carry out a clinical examination: assessment of the clinical condition in order to plan any pre-prosthetic treatment (mucosal health, temporo-mandibular joint and neuromuscular health, pre-prosthetic surgery), the prosthetic treatment plan and difficulty of the case and the possible prognosis.
- Carry out transition treatment to full denture using immediate denture.
- Practice the different impression techniques and make master casts.
- Carry out full denture treatment in moderate and difficult cases resulting from resorption.
- Carry out single arch full denture treatments as compared to a partial removable denture or a full natural dental arch.
- Carry out overdenture treatment on residual roots as well as on implants.
- Be able to determine and record the vertical dimension of occlusion and the interarch relationship
- Be able to choose the prosthetic appliance according to aesthetic and functional principles.
- Be able to mount the teeth to obtain a balanced occlusion (Gysi method) and to carry out occlusal grinding adjustments.
- Ensure the maintenance of full dentures and deal with patient complaints or prosthetic repairs.

Hours in curriculum

The students spend one pre-clinical session a week (2½ hours) with, on the whole 45 hours in DCEO1 and 30 hours in DCEO2, to complete at least one set of full dentures, clinical and laboratory procedures, from beginning to end.

Clinical practice in removable prosthodontics supervised by a specialist / consultant teacher.

48 hours of lectures (18 hours in DCEO1, 15 hours in DCEO2, 15 hours in DCEO3).

Full dentures university degree: 480 hours in three courses (120 hours for theoretical work, 120 hours for the laboratory programme, 240 hours for the clinical programme).

Advanced studies certificate in full dentures: 210 hours in a single course (120 hours for theoretical work, 90 hours of pre-clinical and laboratory programmes).

Method of learning/teaching

- Lectures with visual aids, such as slides and films.
- Tutorials involving small groups of students followed by discussion with a lecturer.
- Lab work with demonstrations and models.
- Clinical treatment supervised by lecturers.
- Recommended readings.
- Case-based learning.
- Topic-based learning.

1. Assessment methods

Pre-clinical studies:

Final written examination for each course.

Assessment of lab work at each stage.

Clinical studies:

To be considered competent to perform full denture treatment, the student has to be able to adequately plan and perform: full denture, single arch full denture, overdenture, immediate full denture and repairs, relining or total replacement of the prosthetic base.

Continuous assessment at the clinical course level by using a grid of pre-determined criteria.

Formal skills and summative course assessment.

Example of a grid of assessment

Strengths

- The students receive knowledge and skills in full denture treatment that allow them to restore both function and aesthetics in simple as well as complex cases, which are now increasingly frequent because of extended life expectancy.
- One important strength is the integration of concepts and data stemming from clinical and basic research in the application of effective clinical practices.
- The promotion of a holistic approach of clinical oral health care using clinical situations with gradually increasing complexity is beneficial to the students.
- The clinical stage directly follows the pre-clinical stage, so that theoretical and practical knowledge can be applied immediately.
- Thanks to partnership programmes between the School and foreign universities, we also welcome visiting professors who contribute to the theoretical courses in our field.

Weaknesses

- Lack of professors so that epidemiological studies and clinical protocols for multicentric studies are difficult to implement.
- Students begin the clinical course too late.

Innovations and best practices

- Assessment grids with predetermined criteria.

Plans for futures changes

- To solve the problems mentioned under weaknesses above.
- To make CD-ROMs to allow computer-assisted projection and interactive training.
- To make an assessment protocol of the quality of the prosthetics and a psychometric assessment of full dentures.

Maxillo-facial Prosthodontics

Dr. Nicolas EID

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Introduction

The course on maxillo-facial prosthetics is given in the last year of the second cycle of odontological studies (DCEO3). This course is mandatory and for all students. It includes only lectures and no structured clinical teaching.

Primary Aims

The purpose of this course is:

- To introduce a prosthodontics activity within the larger oro-facial area.
- To open ways for other medical specialities with which odontologists might come to work.

Main Objectives:

The course must give students knowledge while emphasising:

- The specific aspects of this therapeutic in connection with severe loss of substances leading to multiple functional alterations (total or partial inability to masticate, swallow and phonate), with the need for close co-ordination with the rest of the maxillo-facial team (surgeon, physical therapist, speech therapist, psychiatrist, etc.).
- The common points
 - with conventional prosthetics (joined prosthetic, partial removable prosthetic, full prosthetic, implant-supported prosthetic), particularly with respect to problems related to insertion, stabilisation and retention.
 - with the technological elements used in making prosthetic appliances.

For some students, this introductory course can awaken an interest in later working with this kind of prosthetics, after having received a more specific and more clinical training.

Hours in curriculum

The course is given in the last year of the second cycle of odontological studies (DCEO3) and includes 16 hours of lecture (eleven 1½ hour lectures)

Method of learning/teaching

Lecture course in which basic concepts and clinical illustrations are presented. The tools include slide-shows and video projections.

Assessment methods

Exam at the end of the course (1-hour written exam, coefficient 1)

Strengths

This course requires the participation of visiting lecturers, usually specialists representing fields of expertise such as maxillo-facial surgery, physical therapy, speech therapy, psychiatry, etc. The course is permanently linked to the other prosthetics specialities.

Weaknesses

Limited clinical work. There is a small number of students who have been confronted at least once with clinical situations in which maxillo-facial prosthetics would have applied.

1. Plans for future changes

To develop an optional clinical course during the third cycle of odontological studies (TCEO1).

11.4 Occlusion and Function of the Masticatory System

Pr. Christian KNELLESEN

Dr. Bernard FLEITER Email: bfleiter@wanadoo.fr, bfleiter@odontologie.univ-paris5.fr

1. Introduction

The aim of this course is to develop an understanding of adult mastication, dental organisation, simulation of dental occlusion and TMJ positions. The information acquired in this course is applied in restorative dentistry, orthodontics, prosthodontics, anatomy and physiology.

2. Primary Aims

The primary aims include:

- To create an understanding of Maximum Intercusping Position (MIP)
- To optimise precision in dental restoration to facilitate muscle and dental functions

3. Main Objectives:

To understand:

- the functional anatomy of the dentition
- occlusal relationship in Intercuspal Position and functional movements
- reference position of the mandible (MIP, CR)
- static and dynamic relationship of the dentition
- simulate border movements
- analysis of dental positions and relationship with periodontum
- evaluate dental wear and tear and other oral habits and parafunctions
- diagnosis and treatment of muscle, TMJ dysfunction and minor oro-facial pain

4. Hours in the curriculum

Year 1: 0 hours (only general course in the field of physiology and anatomy)

Year 2: 17 hours

Year 3: 16 hours

Year 4: 28 hours

Year 5: 10 hours

Year 6: 3 hours

5. Method of learning/teaching

This training is based on traditional lecture courses and practical exercises.

Year 2: lectures series and practical exercises in small groups

Year 3: lectures series and multidisciplinary course work (occlusion and anatomy)

Year 4: lectures series and practical exercises in small groups

Year 5: lectures series and clinical exercises in small groups

Year 6: lectures series

6. Assessment methods

Year 2: As part of anatomy and physiology of masticatory apparatus in written method

Year 3: As part of anatomy and physiology of masticatory apparatus, written and oral examination

Year 4: Technical practice and written examination

Year 5: Written examination

7. Strengths

The terminology and chronology of courses in the fields of occlusion, anatomy, and physiology were recently reorganised to improve the understanding of function and dysfunction of the masticatory apparatus. Useful in patient diagnosis and treatment planning.

8. Weaknesses

The teaching methods are not sufficiently oriented towards problem-based learning and the literature available in the library is insufficient. Examination and treatment goals are not developed for student clinical assessment in pre-doctoral programme.

9. Innovations and best practices

Calibration in musculo-articular examination should be performed in pre-doctoral programme.

Section 12: Periodontology

12.1 Periodontology

Pr. Monique BRION

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Introduction

The periodontology course spans the entire curriculum. In P2, the teaching of the structure of periodontal tissues is part of the Histology course. The Department teaches the specific course from P2 to T1.

Primary Aims

To recognise the presence of a pathology of the periodontal tissues and to be able to diagnose the pathology. To know how to adapt a suitable therapy to the identified clinical form.

Main Objectives

At the end of the course, students must be capable of:

- Recognising periodontal lesions in the mucous membranes and bone lesions
- Diagnosing and naming the pathology,
- Collecting and identifying the systemic and local factors that might worsen and maintain the condition,
- Recognising gingival lesions,
- Implementing a suitable treatment plan,
- Explaining to the patient the pathology he/she is suffering from,
- Giving oral hygiene advice in keeping with the patient's situation,
- Reducing the inflammation by scaling, root planing and possible restoration of a healthy oral cavity,
- Making a surgical recommendation after revaluation,
- Attending periodontal surgery (and eventually sometimes operate under supervision),
- Follow-up of the patient.

Hours in the Curriculum

About 100 hours

Methods of Learning/Teaching

The course includes:

Lectures in which the fundamental and basic phenomena of the field are addressed, and lab work that deals with the more practical aspects of the field.

Thus, the following subjects are addressed:

- X-ray analysis,
- writing clinical observations of varying difficulty depending on the year,
- carrying out the various types of sutures required in periodontology,
- introduction to periodontal surgery (lines and incisions) on pig jaws,
- analysis of selected articles in relation with the major themes discussed in each year of the curriculum

In the context of their work in the dental clinics, the students are responsible for patients and they must detect possible periodontal problems, diagnose them, propose a treatment plan and implement it.

Assessment Methods

The students take one written final exam for the theoretical part of this course.

The grades given throughout the year in the lab work count towards the final grade.

In the context of their work in the dental clinics, the students must carry out a given number of treatments, in varying number and difficulty depending on the years (treatment of adult periodontitis in D2, rapid development periodontitis in D3).

Strengths

The curriculum is consistent as it taught by a team trained to practice with the same concepts. In particular, most students have been trained in the context of the University Degree in Periodontology, which is one of the Department's missions as part of post-university training.

Weaknesses

The main problem is in the dispersion of the clinical teaching centres and the small means at their disposal in spite of the efforts of the Department Heads. There is also a problem in the follow-up of the patients as the patients in the Odontology wards are either mobile populations or hard to motivate for long-term programmes.

Innovations and Best Practices

- The lectures and lab work are regularly revised.
- Optional course in D3 (programme manager R. Detienville)

- Multidisciplinary seminar centred on the treatment of rapid development periodontitis in T1.

1. Plans for Future Changes

We have restructured the entire curriculum for the year beginning in the fall of 2000. This new structure must be tested before considering other changes.

It might be possible to set up bi-disciplinary course in future years on specific questions (e.g., restorative odontology and periodontics).

Section 13: Oral Surgery

13.1 Oral Surgery

Dr. Louis Maman

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1. Introduction

Oral Surgery is introduced in the third year of our curriculum (DCEO1) and continues throughout the 4th, 5th and 6th years (DCEO2, DCEO3, TCEO1).

Oral Medicine and Oral Pathology are studied in parallel in the three final years.

Primary Aims

To teach the students surgery principles and techniques, so that they can define indications and practice the most common oral surgery procedures in total safety.

Main Objectives

- To teach indications, contraindications and the limits of each intervention
- To teach the principles of sterilisation as they apply to the practice of oral surgery
- To teach oral surgery procedures as they apply in the dental practice
- To teach the control and management of dental pain
- To teach the control and management of dental infection
- To be aware of the existence of the surgical techniques of maxillo-facial surgery, which could be beneficial to the patient

Hours in the Curriculum

DCEO1	lectures 35 hours	lab work 20 hours	
DCEO2	lectures 30 hours	tutorials 20 hours	clinical work 50 hours
DCEO3	lectures 27 hours	lab work 20 hours	clinical work 50 hours
TCEO1	lectures 3 hours		clinical work 50 hours

Methods of Learning/Teaching

- Lectures with slides and video presentations
- Practical work:
 - Manipulation and recognition of surgical instruments
 - Simulation on animal jaws
 - Setting up the operating field
- Clinical work:
 - Time spent in the Dental Department
 - Time spent in the Maxillo-Facial Surgery Department

Assessment Methods

Course: final exam in short answer form

Lab work and clinical work: grades given during the year

Clinical assessment:

- Presentation of clinical cases
- Indication and description of pre-operative procedures
- Post-operative reports
- Implementation of a qualitative training evaluation

Strengths

Our departments operate as a polyclinic, which means it is possible to work in multidisciplinary teams and to teach student a global approach of the patient.

Weaknesses

Our departments are not all located in the hospitals. All our students do not treat in-patients and they are not in contact with the medical teams.

Innovations and Best Practices

We are gradually implementing multidisciplinary problem-solving teaching methods. Such methods should make it possible to improve the quality of the knowledge that it passed on.

Plans for Future Changes

Development of interactive learning in the area of oral surgery.

13.2 Radiography and Radiology (see Biophysics p. 49)

Section 14: Oral Medicine and Oral Pathology

Go back to section 13.1

Section 15: Integrated Patient Care, Dental Emergencies and Special Needs Patients

15.1 Integrated Patient Care

Pr. Christian KNELLESEN

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This course is integrated all along the clinical curriculum of our students and is reinforced by the fact that our curriculum is divided in “ profiles of patients ”. During this course, students evaluate if the decision in relation to the type of care offered and provided to patients is compatible with their needs and desires. The course runs from the beginning of February to the end of June during D2 and from the beginning of October to the end of June in D3 and T1. During the first 6 months of their clinical exercise, four students are supervised by a dental tutor during all sessions. Then , during the following years, students are more independent and only one teacher supervised 6 to 8 students .

The course is set out to assess all possible solutions to the patients’ problems, whether they be social, psychological, financial availability or clinical together with all the comprehensive risk factors involved. The course allows the undergraduate student the opportunity, in co-operation with the patient, to recognise the appropriate treatment option.

1. Primary Aims

The students should be able to :

- to afford the students the opportunity to investigate the various options available to match the patients aspirations, in order that they arrive at an appropriate treatment option that is suitable for the patient
- to provide the students with opportunities to appreciate and evaluate the medical, dental, social, financial and psychological demands of the patient, and to sympathise and compassionately evaluate and prioritise such factors, so as to provide the optimum service to their patients.

2. Main Objectives

- To assess the patients taking into account all their needs and desires
- To plan a treatment with respect to the individual and the delivery care system
- To evaluate the outcome of the treatment.
- To prepare the students to progress to independent practice

3. Hours in the Curriculum

Since the students have a position in the hospital, they are involved 12 weekly hours a week for 41 weeks a year.

In addition to the clinical sessions allocated, a number of additional hours are spent per week in researching solutions and investigating the practical skills necessary to fulfil the treatment required to solve the patients' problems.

Methods of Learning/Teaching

An appreciation of the "whole" patient including all his problems is one of the driving philosophies of our Faculty and has justified the new organisation of our curriculum in profiles of patients.

The students are asked to appreciate the whole gamut of problems presenting with the patient, the social, psychological, and economic. This is discussed with their clinical supervisor. Then a treatment plan is established according to the patient wishes.

When the treatment plan appears to be too complex, the appropriate solution is taken by a staff of teachers of different clinical specialities : periodontology, restorative dentistry, prosthetics, orthodontics... This allows the student the opportunity to develop a contextual series of problem solving solutions, and to interpret the comprehensive approach that can be applied in the clinical situation.

4. Assessment Methods

Continuous assessment is used to measure the theoretical knowledge and skill acquisition throughout the curriculum.

The clinical credits are used in the clinical situation as mentioned elsewhere in this document. They assessed the quantity of clinical work done by the student.

Some treatments are assessed with an evaluation grid with predetermined criteria to evaluate the quality of treatment.

5. Strengths

The presence of clinical staffs with teachers of different specialities for complex cases reinforces the integrated care approach to patients.

Not only the quantity but also the quality of work is assessed.

6. Weaknesses

The examination system does not incorporate an assessment component in measuring achievement. It is planned to implement this factor in the future

15.2 Geriatric Dentistry

Pr. Jean Charles DETRUIT

Head of the 2nd cycle curriculum

Introduction

The ageing of the population and the increasing number of elderly people led us as early as 1990 to set up a university degree in geriatric odontology.

DCEO3

A specific course in geriatric odontology was implemented in DCEO3, starting in the fall of 1999.

Primary aims

Global care of the elderly patient, taking into account age and ageing, degree of dependence, pathologies and prescriptions.

Hours in curriculum

8 hours of theoretical lectures

Methods of Learning/Teaching

A theoretical course is given at the School of Dental Surgery.

The clinical course takes place in the odontology ward at Hôpital Charles Foix in Ivry (the largest geriatric hospital in Europe).

Assessment methods

The students take one written exam for this course.

Strengths

The opportunity for the students of the odontology ward of Hôpital Charles Foix in Ivry to acquire clinical experience. The students enrolled for the university degree take care of the hospital needs in terms of geriatric odontology in the context of their continuing education programme.

Weaknesses

The clinical experience is acquired in only one odontology ward.

University Degree in Geriatric Dentistry

Continuing Education

Introduction

The University Degree in geriatric Dentistry is intended for professionals wishing to expand their knowledge in the area of geriatric dental care.

Primary aims

Global care of the elderly patient, taking into account age and aging, degree of dependence, pathologies and prescriptions.

Hours in curriculum

570 hours

Methods of Learning/Teaching

A theoretical course of 140 hours per year during two years is given at the School of Dental Surgery. The first year is dedicated to the study of the mechanisms of senescence and pathological phenomena. The second year deals more specifically with the aging of the oral sphere and the available preventive and curative treatments.

A clinical training of 145 hours per year during two years is given in the odontology ward at Hôpital Charles Foix in Ivry. Consultations are held twice a week and the University Degree students carry out preventive and curative procedures.

Assessment Methods

The students take one practical written exam for this course.

Students must submit and present a paper in order to graduate.

Section 16: Behavioural Sciences**16.1 Behavioural Sciences and communications****1. Introduction**

This course has been delivered between the year 1995 to 1999.

Unfortunately, resistance and lack of specialised teachers did not allowed to maintain the course

2. Plans for Future Changes

Some contacts should lead to share resources with the Institute of psychology of the University Paris 5.

16.2 Ethics and Jurisprudence (see prevention p. 65)**16.3 Practice Management (see prevention p. 65)**

16.4 English language

Miss Laurence BELIS, e-mail: belis@odontologie.univ-paris5.fr

Introduction

This is a course of English as a second language for specific purposes.

It is taught over a period of two years. Students are divided into groups of about 16.

Courses are taught in both mixed and same-level groups. Most students have had 5 to 7 years of English at the secondary level; however, their level may vary from fluent to elementary with a vast majority at the intermediate or upper-intermediate levels.

Primary aims

The aims of this course are:

- to answer the needs of future dentists in the areas of research and continuing education.
- to develop communication skills for socialising.

Main objectives

Some of the objectives are:

- improving aural-oral communication skills: listening comprehension, expression (pronunciation, intonation, accents, inferring, deducing, non-verbal communication, methodology...)
- improving reading skills with an emphasis on English for specific purposes (methodology, inferring, complex syntax...)
- expanding lexical range (introduction to scientific and medical vocabulary)
- cross-cultural differences

Hours in the curriculum

about 100 hours over 2 years:

Second year (PCEO2):

hours / week – mixed groups – 28 weeks – beg Oct / mid Sept – mid Feb / mid May

1 hour / week - same-level groups – 20 weeks – mid Nov / mid May

Third year (DCEO1):

1.15 hours / week – same-level groups – 28 weeks – beg Oct / mid May

Methods of Learning/Teaching

The course is based on multiple approaches in accordance with the needs of the students to allow them to use the language in genuine life situations (authentic audio and reading documents, native speakers, role-plays, discussions ...) giving them along the way the linguistic,

cultural, phonological tools to reach sufficient proficiency to function in simple or more complex situations whether professional or not.

The material used includes: articles, extracts from work of fiction, dialogues, TV or radio broadcasts, medical documents, grammar and vocabulary activities.

Assessment methods

- A one-hour final examination testing reading comprehension of a scientific document.
- A questionnaire evaluating the course.

Strengths

Classes are taught in groups small enough to allow communication as well as evaluation of each student's needs. The course covers a period of 2 years providing time for long term and multiple objectives, confidence building, systematisation.

Weaknesses

- lack of material and resources
- no specific syllabus for each year
- insufficient co-ordination with areas of specialisation

Innovations and best practices:

- same-level groups
- remedial course offered to students at the elementary level on a non-credit, voluntary basis in 1999-2000
- for same-level group classes, groups change teachers over the course of one year thus giving all students the opportunity to have classes with native speakers.

Plans for Future Changes

- implementation of a syllabus
- a handbook will be handed out as a reference and activity book
- more regular assessment will be introduced
- communication between teachers of English and with teachers of other specialities will be encouraged
- 2 Optional Programmes may be offered: a remedial course and a course of English for research for 4th and/or 5th year students.

Section 17: Examinations, Assessments and Competence's

Pr Michel DEGRANGE, e-mail : grbiomat@imagnet.fr

Dr Gérard LÉVY

1. Introduction

Concept to measure professional authenticity cognitively and behaviourally uses mainly the traditional methods as:

Cognition

Written examination, including problem solving questions and structured essay questions (open) combined with clinical case presentation.

Competence tests

Preclinical and clinical tests of competence at designed procedures and the clinical competence tests are assessed using a grid of assessment. However, in some practical situations, skills assessment is mainly based on personal judgement without any written criteria. Furthermore, quantity of clinical activities is rather considered as compared as quality.

To validate the year D3 (5th year), beside the traditional assessment procedures, the students are asked to make a case based dissertation and oral examination dealing with special treatment issues.

2. Strengths

In clinical environment the students are evaluated in a comprehensive care setting.

3. Weaknesses

Lack of criteria with respect to delivery public health care.

The methods to assess the competence's evoke many problems with respect to validity and reliability.

4. Plans for Future Changes

To develop faculty development in order to focus assessment methods more closely student learning oriented.

Explain as to what level external examiners are involved

Synthesis and Therapeutics) at the end of the 5th year. This exam is mandatory for students to apply for the 3rd cycle of dental studies (last year or internship)

Section 18: Other Influences

Dr. Bernard PELLAT, e-mail: pellat@odontologie.univ-paris5.fr

18.1 Regional Oral Health Needs

A diminution of dental caries has been observed since 1960 in many occidental countries. The sale of fluoridated domestic salt was authorised in France in 1987. At the same time, a baseline study was undertaken to evaluate the prevalence of dental caries in the French population. Five years later, a second national study showed a large decrease in the dental caries prevalence. At the age of 12, for example, the DMFT and DMFS indices showed a decrease of about 38%. This decrease seemed to be related to improvements in oral hygiene and to a larger use of fluoridated toothpaste's.

National and local surveys have now provided valuable information of oral health needs and the information has been of benefit in planning oral health services. The school has responded to changing patterns of disease and the needs of the community. Public health including oral health needs, is an integral part of the programme, as is prevention. Dental students in the third year go every year with their teachers in schools to learn children who are 10 and 11 years old how dental decay happen and how they can prevent it.

In the French context, teaching about prevention is very innovative. A small number of French dental schools propose that kind of training. Moreover, the French national health care system does not lay emphasis on prevention. Therefore, it is difficult to increase students' awareness of the prevention of dental diseases.

The referral pattern of the practitioners working in the proximity of the University, i.e. the referral of patients with special needs and hospitalised persons with compromising systemic diseases, was the reason to implement a treatment programme for these patients groups and to adopt these topics in the curriculum.

Training programmes, both clinical and didactic, have been modified to take account of the changing needs of the community.

18.2 Evidence Based Treatments

There is a need of faculty development to educate the future dentist to diagnose, to make a treatment plan, to assess the outcome of the treatment of the individual in a public delivery care context. Some teachers who have had the opportunity to exchange with foreign colleagues are aware of this aspect of the dental practice and wish to be supported.

18.3 Involvement in other University Activities

Students are encouraged to be actively involved in student affairs and University societies.

Students have also taken part in the Erasmus/Socrates programmes with, Sweden, Finland, UK, Italy and Portugal.

Teachers were part of staff in Sweden, Québec, Ivory Coast, Leban, Marocco and Mexico.

Research programmes were exchanged with USA, UK, Canada and Norway.

18.4 Recreation and Sport

The school considers it important that students have opportunities to spend time, outside of study periods, on other activities.

Depending on the availability of students, the Dental School has had excellent teams in sports such as rugby or football. The level of intensity of the dental course however is a significant disadvantage in this respect.

Elective courses of non dental subjects have been implemented outside the Faculty (Elective course of sport for example).

A society called “ CEOP 5 ” (“ Dental Students Association ”) is managed by our students. The primary aims of this association are :

- To put the new student (P2) under the protection of an older one (D1). This leads to a better Faculty integration of the newcomers
- to buy dental instruments for students at the cheapest price
- to organise parties or athletic week-ends where students and teachers can meet each other

18.5 Student Selection Procedures

In France, the first year of the dental undergraduate curriculum, known as P1, is common to the medical curriculum, and taught at the Faculty of Medicine. At the end of P1, students are selected by procedures established by the government. Each year, the Department of Higher Education and Research set to each Faculty of medicine and dentistry a clearly defined number of students who are allowed to pursue their medical or dental studies.

The examination is very competitive. Over 4000 applicants for P1, 400 medical and 80 dental students are admitted to carry on their studies.

Section 19: Student Affairs

Name of Student representatives who will discuss this:

Final year :

Fifth year : Guillaume Winter

Fourth year : Frédéric Raux

Third year : Aude- Sophie Zlowodzki

Second year : Annabelle Tennenbaum

Internship : Olivier Guastalla

PhD : Chaussain-Miller

Basic Data from Dental School

- a) Average number of dental students qualifying per year: 90
- b) Average number of dental students admitted to the first year: 90
- c) Length of course in years: 6 years
- d) Is there a separate period of vocational training following graduation as a dentist in your country ? No, but there is a period of vocational training during D3, half a day per week, during the whole year. During this period, students have no dental practice, they are only observers. The aim of this period is to learn how a dentist manages his office.
- e) If yes to d) above, is that organised by the University ? Yes

19.2 List different postgraduate courses

Parodontology, Occlusodontology, Geriatric Odontology, Pediatric Odontology, Full denture, Implantology, Lingual orthodontics, Anatomy.

Specialities:

- Orthodontics

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

In France, Dental Schools are not in charge of auxiliary or technology courses.

However, in our School, there are optional courses in D1: students can go to a technological school to learn how to make prosthetics.

Section 20: Research and Publications

Pr. Michel GOLDBERG

E-mail : goldberg@odontologie.univ-paris5.fr

The laboratory: Cranio-Facial Biology and Physiopathology is labelled by the Ministry of Education, Research and Technology: EA 2496. It is therefore authorised to welcome PhD students.

This organisation is the result of the collaboration of three groups:

- Group: extracellular matrix and biomineralisations head: Pr. M. Goldberg
- Group: bone physiopathology head: Pr. J-L Saffar
- Group: non-mineralised tissue physiopathology head: Pr. B. Pellat

Summary of projects

The research activities of group 1 are the following:

1 - Extracellular matrix (ECM) components

- components of the basement membrane
- ECM involved in dentinogenesis:
 - glycosaminoglycans chondroitin sulphates, keratan sulphate and proteoglycans (decorin, biglycan, lumican)
 - phosphorylated proteins: DPP, DMP1
 - phospholipids: identification and role(s)
 - growth factors: FGF2
 - matrix metalloproteases (MMP-2, MMP-9, MMP-3)

Each matrix component is studied by light and electron histochemistry, immunohistochemistry (when antibodies are available), experimental approaches: embryonic mouse tooth germs cultured in the presence or absence of specific inhibitors, rat incisor tooth slices, radioautography after injection of a specific precursor (when available), transgenic animals (Gus mps/mps, Fabry's disease), human genetic disease (Karbbe's disease).

- ECM involved in amelogenesis:
 - amelogenin – effects of two deletions (N- and C termini) on enamel formation
 - Matrix metalloproteases

2 - Biomaterials: tissue engineering and improvement of biocompatibility of resin-based biomaterials.

Pulp mineralisation induced - by BSP, OP-1, 7kD amelogenin,

- by some pharmacological agents

Evaluation in vivo of the pulp reaction to dental biomaterials

Improvements of biocompatibility - parameters of cytotoxicity: evaluation on cell cultures.

Collaborations:

French:

S. Menashi INSERM

JM Sautier, JR Nefussi, Paris-7

International:

G. Embery & R. Hall, Cardiff

Anne George, Chicago

A. Veis, Chicago

Mary MacDougall, San Antonio

Erdjan Salih, Boston

A. Kulkarni, NIH Bethesda

A. Nanci, Montreal

S. Risnes, Oslo

20.1 Number of publications in refereed journals in 1998 and 1999

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Section 21: Quality Development and

Section 22: Overall Comments on the School

Pr. Bernard PELLAT, e-mail: pellat@odontologie.univ-paris5.fr

The University of Paris 5 dental school prepares the undergraduate students for university examinations that are recognised as national degree according to the state regulations.

The academic building is rather well adapted to the teaching assignment excepted the library of which the surface should be extended to take advantage of the good collection of French but also international literature.

The school has an executive structure, which oversees and monitors the curriculum. This executive structure discusses the issue raised by the various school committees regarding the programme set up and the teaching and assessment, staff recruiting, administrative employees and foreign lecturers. Each committee is composed of heads of academic and clinical departments and members elected by the executive structure. The conclusions of the working groups are discussed and voted by the executive structure. Then the minute is submitted to the university councils for approval.

Since the year 1995-1996, the curriculum has changed from 5 years to 6 years of dental studies that gave an opportunity to review and clarify objectives. Taking into account the resistance to transforming the traditional department programmes into cross-departmental curriculum emphasising the competence's that a new graduate might be expected, can only be a progressive and regular ongoing activity.

These last 2 years the faculty has proceeded to student evaluation by a questionnaire to obtain feedback from students on all aspects of their activities and the programme.

Minor or major curricular changes, or altered educational approaches have been based on reviews in which course evaluations by staff and students have played a part of the review.

Idealistic plans for development are constrained by the limited availability of financial resources and the fact that the institution is divided into 5 buildings for the academic and dental clinics. Moreover, the national ambitious programmes do not match the centred patient curriculum. Therefore, the pedagogic evolution is limited.

An increasing emphasis is put on the training and development of staff, often with specific programmes for younger and newly appointed staff. Educational seminars are held every year to provide in-service training programmes for all staff, covering issues such as curriculum design, educational approaches and methods of assessment. These include guest lectures, interdisciplinary seminars, and participation of schools in peer and international exchanges and encourage active involvement in international meetings on dental education.

Concerning the courses there is poor student attendance to the lectures that are not mandatory. Conversely, workshop, laboratories and clinics are compulsory.

See Section 1, Topics 1.3

Part II Visitors Comments

Section 1. Introduction

Paris represents a wealth of intellectual and literary culture stretching back over centuries – a place that encourages exchange of ideas in a free society – it is therefore appropriate that its Universities and Faculties of Odontology continue to maintain these ideals. The Dental School of Paris-5 University is one of 16 French Schools two of which are in Paris, Paris-5 and Paris-7 respectively. Paris-5 University is named after René Descartes - the famous 17th century philosopher and provides a rich backdrop in the Latin Quarter. The University has a multifaculty framework of 11 Schools encompassing Odontology, three Medical Schools and Pharmacy. The proposed transfer of the Dental Faculty from the periphery of Paris into larger premises within this quarter will enrich the lives of Faculty and its students by bringing them to the heart of university and cultural life.

This report reflects the views of the visitors during their short visit to the Montrouge Institute and two of the four clinical facilities between January 20 –24th 2001. It sets out to assimilate, investigate and analyse the evidence presented to provide a balanced overview of best practice in maintaining a thriving Dental Faculty. If there are obvious omissions, inaccuracies or misinterpretations in this report, they are unintended. The visitors are reminded of René Descartes' advice: "*the purpose of studying must be to guide the mind so that it can pass sound and real judgements on all that it is presented with*".

Section 2. Facilities

The geographical location of the Faculty Departments and clinics provide many logistical problems in terms of travel, communication and inter-clinic standardisation. Furthermore, the essentially 'pre-clinical' facility at Montrouge artificially separates the early part of the curriculum from the clinical components.

2.1 Clinical facilities

Two clinical facilities were visited, namely Hôpital Albert Chenevier and Centre Dentaire Jean Deliberos. The clinics were associated with a large hospitals that provided a central sterilisation centre for equipment and medical support for emergencies. It was a common opinion amongst the teachers that the number of dental units at the hospital clinics were insufficient in relation to the number of students. However, the dental units were relatively modern although varying in age, and some side rooms were made available for more private consultations or specialist functions such as oral surgery. There was limited access to inpatient wards and operating theatres within the hospital and the visitors feel that this important lack of contact needs to be urgently addressed.

In comparison Hôpital Albert Chenevier resembled Centre Dentaire Jean Deliberos in the range of multi-disciplinary capabilities and facilities. The upgrading of the current clinical facilities is to be commended and encouraged. A new multi-disciplinary clinical facility is proposed for the new building in the center of Paris to inextricably link the basic medical sciences with the clinical facilities, whilst providing further clinical exposure in the outlying amenities. The proposed relocation combining such facilities gained strong support from the staff.

2.2 Teaching Facilities

It was noted that the vast majority of teaching facilities were located in the Montrouge Institute. After 33 years the infrastructure and fabric of this building is 'decaying'. The electrical system needs updating to ensure that lights are kept on in dark main corridors for safety reasons. However, the cost of renovation and need to redesign laboratories, the library and teaching areas with health and safety in mind clearly underscores the cost effectiveness of moving to new purpose-built premises.

The main lecture hall provided a good central forum with contemporary audio-visual (AV) aids, but the acoustics created an echo. The 300 seater lecture room that was viewed had a more banked design, and we were informed that network points were available although none were immediately obvious. The smaller lecture theatre was more comfortable but portable Liquid Crystal Display (LCD) computer projection rather than fixed was available. This obscured the view of some of the audience to the screen. When planning the new facility it will be important to ensure that there are sufficient areas for small group teaching and that all teaching areas have access to contemporary AV and computer facilities including the networks.

The visitors understood that there was a multimedia area available but did not view it. There will be a particular need to provide comprehensive IT facilities in the new building.

2.3 Teaching Laboratories

The visitors noted the wide range of teaching laboratories, from old wooden benches to an impressive high tech KaVo EduNet facility. The more modern areas were certainly fit for their purpose but a few were noted to be somewhat grubby and this may in part be due to the separation from a clinical environment. There appeared to be some pressure on the use of the newer phantom head areas, resulting in fewer departments having access. This clearly needs to be resolved.

The radiology simulation unit was most valuable but we were not able to see the anatomy or pathology areas.

2.4 Research Laboratories

The research laboratories housed a wide range of contemporary equipment including a scanning electron microscope. However, the underlying fabric is old and lacks modern extraction and ventilation equipment. The high level of work done in these laboratories is to be commended under these circumstances. The cell culture facility was small but it was understood that any new facility would expand this. Having all facilities at a geographical distance from clinical facilities inevitably discourages those wishing to carry out clinical and/or basic sciences research.

The visitors support the move to house all research laboratories under one roof in close proximity to clinical, undergraduate and postgraduate facilities as part of the new building development.

2.5 Library

The comprehensive range of books and journals in both English and French, with many international titles and editions, impressed the visitors. The clear cataloguing and efficient use of extremely limited space is to be highly commended. Electronic access to Medline and other databases was very helpful, although there was no technical support for this facility. There were a limited series of video and Computer Assisted Learning (CAL) titles which would obviously benefit from extension if the library area were expanded.

The visitors agree with the Dean and library staff that the limitation in size and site of the library in the current building and consequent problems with fire exits is unacceptable. Only 19 persons are allowed admission at one time which severely hinders the accessibility of the resources. The visitors strongly support the proposed move to much larger premises for greater access for all, the expansion of current books and journals and the housing of comprehensive IT facilities. These new IT facilities should provide workstation access for all.

Section 3. Administration and Organisation

3.1 & 3.2 Clinical & Non-Clinical /Academic Organisational Structures for School and Hospital

The visitors note that the administrative structures and organisation are complicated. The visitors believe that the administrative structure should allow the Dean a more prominent position to introduce necessary reforms and ensure a thriving faculty. This might include the ability to appoint an Executive Committee including Vice-Deans to oversee the Board of the School.

It was encouraging to see an elective process of membership to the Board of the Dental School but the visitors were unsure that the mix and large numbers of representation achieved an effective decision making process. Positive and productive thinking may not thrive sufficiently for the greater good of the whole faculty. An example of this was the loss of an entire and essential Department – Communications - because of the end of contract of one individual. However, the visitors were encouraged to see student representation on many committees but were not clear how well the various sub-committees functioned within the given committee structure.

With different financial sources it is difficult to ensure adequate funding levels in areas of need. The visitors realize that greater financial investment is essential to allow the necessary development for the faculty and the clinics.

3.3 Information technology

The value of IT in education was emphasised under facilities (2.5), but with investment in this essential technology and communications networking, a support service becomes essential. The visitors feel this should form an important part of the evolution of the new School on its new site. However, by virtue of interdisciplinary integration and other pedagogic developments it was clear that Faculty recognised IT as a tool to strengthen their educational philosophy.

Clinical records are still paper based in the clinics and would be greatly enhanced by the implementation of an electronic patient administrative system. To be meaningful, it should be

similar in all clinics and be linked to the new main Dental School in central Paris. There should, however, be robust patient data protection, whilst allowing reasonable ease of access.

4. Staff Issues

The visitors highly commend the professionalism and devotion of the staff who clearly worked long hours most dutifully. However, it was clear that staff did not have protected or adequate time for research activities or personal development. The visitors believe that development programmes are essential for the well being of the staff, and that adequate time for research activities of all types including both clinical and educational research should be protected. To achieve this staff numbers may have to be increased. The proportion of part-time to full-time staff appeared out of proportion. The visitors recommend that more full-time staff are employed.

Junior faculty must be given the opportunity to develop through active mentorship of academic pursuit and promotions should be based on tangible criteria such as research and other academic pursuit. There should be definable academic and clinical training pathways in all disciplines. These should reach national and European standards. Juniors should have an effective voice in the faculty decision making process.

There appears to be limited number of professionals complementary to dentistry who are essential for good team work and the future of research. The visitors strongly recommend the employment and training of such groups as a future strategy.

The awareness of such contemporary learning methods appeared limited amongst the staff. The visitors recommend that all teaching staff are given training in such contemporary pedagogical methods to ensure effective and cohesive delivery of educational material. All staff should be at least basically computer literate and be able to communicate effectively with students electronically. There should be definable rewards such as certification and diplomas in education and that these merits should be taken into account when applying for academic office.

With four separate clinical sites the issue of standardisation of clinical faculty is important. There should be the same agreed processes related to staff regardless of their clinic or speciality. This may, for example, include regular training in cardio-pulmonary resuscitation (CPR), promotion or development prospects and the acquisition of other European languages. The visitors were impressed by the employment of an English teacher who should be given adequate resources to fulfill the role effectively to the benefit of staff and students.

Section 5. Biological Sciences

The visitors agreed with comments in the self assessment document about the lack of integration between pre and clinical studies. There was clearly an emphasis on pre-clinical and biological sciences which in part may have evolved from the geographical dislocation from clinical facilities. A good example of this is the comprehensive biophysics course, but there appears to be little formal radiology taught in the clinically based years.

In biochemistry the visitors were pleased to see a significant input by a basic scientist and the promotion of a student orientated curriculum. The visitors applauded the inter-disciplinary teaching such as case presentations and the production of CDROM's across specialities. The electives with open topics introduced two years ago were also considered a valuable asset.

Overall the visitors appreciate the high standard of teaching and efforts at an interdisciplinary approach, but suggest that a more integrated scheme should be implemented with a balance toward the clinical studies.

6. Pre-Clinical Sciences

6.1 Anatomy & Physiology

As in Section 5, the visitors share the concerns of the staff in effectively integrating the pre-clinical sciences into the clinical curriculum. The visitors strongly believe that applying both sciences to the clinical curriculum is essential to enhance the understanding of all dental and oral surgical procedures.

The visitors particularly applaud the integration of anatomy and physiology in organ systems teaching and were pleased to see the many teaching models to aid three dimensional understanding. The planned development use of computer aided techniques is encouraged.

7. Para-Clinical Sciences

7.1-3 Pharmacology, Microbiology, Histopathology

From a learning perspective the visitors appreciated the integration and general structure of these courses. The staff were very positive in approaching the topics and in understanding the value of new pedagogical techniques.

The curriculum of pharmacology and microbiology was comprehensive and addressed pertinent issues in oral health. The visitors suggest an increase of hours in virology to highlight this rapidly growing area of relevance. Histopathology's role as a bridging course between basic and clinical sciences was highly appreciated. However, the visitors were unclear where General Pathology was taught.

8. Human Diseases

It was not clear to the visitors how, when or where the subjects of general medicine and general surgery were addressed. The visitors noted that some time in the curriculum was allocated to these topics but that it was a much underrated part of the curriculum. Limited access to wards and operating theatres further reduces the student's access to general medical and surgical patients.

With the increasing complexity of medical and surgical problems affecting patients, with the appreciation of dealing with medical emergencies and the understanding of managing medically compromised and special needs patients, these subjects are becoming increasingly important. The visitors strongly recommend the implementation of a comprehensive human disease course with access to medical and surgical cases in the hospitals. The new course should be made dentally relevant and include modern pedagogical and computer assisted learning techniques.

9. Orthodontics & Paediatric Dentistry

In child dental health it was pleasing for the visitors to see such an enthusiastic leader. Indeed, the increasing collaboration between orthodontics and paedodontics is particularly praiseworthy. The essential area of good communication skills was well highlighted and was clearly an important area of teaching.

The visitors felt that orthodontics had a well-balanced approach to the subject allowing the student to manage prevention and interception procedures. As this subject area generally appears to shift towards postgraduate teaching, it was good to see it being presented to the

undergraduate in a meaningful way. The general philosophy of reducing the lecture load in favour of small group teaching was appreciated.

10. Public Health, Preventive and Community Dentistry

The visitors have difficulty in understanding the government's lack of interventive prevention programmes in oral and general health. This was particularly notable in the area of fluoridation. The visitors believe that this will not lead to increased oral health – only to the reliance on the need for reparative procedures. Notwithstanding this backdrop, there were some admirable projects within the School aimed at improving oral health such as the introduction of an outreach programme towards an improvement of oral health in socio-economically deprived communities.

The subjects Geriatrics and Epidemiology, both in the Department of Public Health, seemed to actively have detached themselves from the departmental structure. This has led to a confusion how this department is structured. The important subject of prevention requires effective co-operation between all related fields. The visitors had the feeling that collaboration between individuals and subjects within the department could increase to enhance the importance of prevention.

11. Restorative Dentistry

Overall the visitors felt that restructuring of the restorative sciences into one department with subdivisions would allow a more efficient use of time and resources and more effective clinical teaching. An advantage with a restructuring would be that in a comprehensive care program a faculty member from the same department should be able to evaluate more than one type of procedures. With several departments within the restorative sciences this is not the case and valuable time is lost both for patients and students.

11.1 Dental Materials

The visitors commend the approach within the Department of Dental Materials for its teaching and implementation of contemporary pedagogical and innovative methods. The use of a questionnaire to obtain feedback from the students was an admirable feature and one that highlighted the thought involved in the continuing improvement of this course. The visitors shared the reservations of the teachers in effectively integrating biomaterials into the clinical setting, one that could most easily be resolved by relocation of both clinical and pre-clinical subjects to one major site.

11.2 Conservative Dentistry and Endodontics

The Department of Restorative Dentistry and Endodontics had a sound approach to the teaching of one of the world's most prevalent diseases. The use of modern assessment methods such as the SCOT analysis and the philosophy of life-long learning were well highlighted. The visitors appreciated the concept of quality over quantity of experience and the need to have clinical feedback in training.

In the clinical arena, the students were plainly treating patients in a comprehensive way. However, a system such as a centralised database would ensure some harmonisation of students' competence and performance across clinics.

11.3 Prosthetic Dentistry

The visitors commend Fixed Prosthodontics for realistic goals and a sound approach to Evidence Based Learning (EBL). The acquisition of exceedingly modern phantom head equipment such as the KaVo EduNet system was impressive, but there appeared to be congestion in timetabling of use all phantom areas. These courses are new, but the visitors encourage the teachers to continue with their endeavours whilst ensuring that the course is modified as feedback and future strategy dictate.

The Department of Partial Removable Prosthodontics approach to its education by publishing three books was regarded as admirable. Clearly stated principles of treatment in the form of textbooks or syllabi allow for an easier standardization of faculty and students at the four clinical sites. The innovative approach to the 'virtual classroom' in Full Removable Prosthodontics was considered well founded for the promotion of interactive collaborative learning. Furthermore, the value of encouraging clinical research and international exchanges was highlighted.

11.4 Occlusion and the Function of the Masticatory System

Occlusion appeared to be covered well in pre-clinical subjects but there was limited clinical exposure as students may not always get to see a patient with a related problem such as TMJ pain dysfunction syndrome. Again this enthusiastically presented course would benefit from clinical input on one site.

12. Periodontology

The visitors recognised the important focus on prevention taught early and throughout the course. Indeed, periodontology appeared in every year of the course. It was heartening to see efforts being made to integrate with other related topics such as histology, immunology and bacteriology and the visitors encourage the continuation of this multi-disciplinary approach. Furthermore collaboration with pre-clinical areas existed and all four clinics aimed to assure the same quality of teaching.

There was clearly an evidence-based approach to clinical work and this was considered most commendable. The visitors were also impressed by the range of topical research areas such as vascular changes in smoking.

13. Oral Surgery & Dental Radiology

13.1 Oral Surgery

The objectives of oral surgery clearly covered the needs of the general dental practitioner. The visitors were pleased to see a competency based student evaluation form and efforts at describing levels of achievement to competency. The targets of practical attainment were realistic and ample and provided further evidence of the continuing need in the population for exodontia. The ability to treat more complicated cases was a distinct advantage. However, having students at four dental clinics undoubtedly leads to difficulties with standardisation of experience.

The wide ranging remit of the Department which included the teaching of Oral Medicine, and Human Disease plus medical emergencies was impressive in the absence of separate disciplines.

However, the lack of access to operating theatres and the consequent exposure to general anaesthesia and major oral surgery operative procedures was regrettable, but may in part reflect the fact that maxillofacial surgery is considered a medical rather than a dental discipline.

There appeared to be no facility within the curriculum for conscious sedative techniques such as intravenous sedation or inhalational 'relative' analgesia. These are an important and expanding area of management of the anxious and medically compromised patient and the visitors felt they should be included in the curriculum. However, the Department is to be commended on its activity and the degree of practical experience in exodontia and minor oral surgery under local anaesthesia.

13.2 Biophysics and Radiology

At a preclinical level, the visitors were impressed by the comprehensive background in biophysics which included a simulation facility for taking radiographs. However, this high standard did not manifest in the clinical course where radiology was taught by any able clinician. There was no evidence, for instance, of teaching in clinical image analysis – an essential part of a clinicians' interpretive armamentarium.

The visitors therefore strongly recommend that accredited teachers in radiology are appointed to teach both the core of knowledge, and oral and maxillofacial radiology. There is clearly a cost implication, but this is an essential part of the curriculum. All staff should also be required to reach minimum standards in their core of knowledge of dental radiology.

14. Oral Medicine and Oral Pathology

These two subjects are currently taught by the Department of Oral Surgery. Clear objectives were presented and discussed with the visitors and it was believed that this made the educational process manageable both for students and faculty. However, separate disciplines may need to evolve in the future to encourage a flourishing research potential, international exchange and further experience for both staff and students.

15. Integrated Patient Care & Emergencies

15.1 Integrated Patient Care & Special Needs Patients

The Faculty's aim to implement integrated patient care was thought of very highly by the visitors. Efforts have been made on the clinics to ensure that all major specialities are available for advice over the management of patients. This horizontal integration is praiseworthy, but due to the geographical dislocation of the pre-clinical site (Montrouge), there is little opportunity for meaningful vertical integration. With the proposed relocation of facilities under one roof, integration will inevitably be improved.

The visitors considered it important that evaluation procedures and treatment protocols should be standardised across clinics. It was noted that correlating student training requirements to patient needs was difficult. However, if an electronic patient administrative system were implemented, then creating a good case mix may become more achievable. There appeared to be limited provision for the care of special needs patients, and the visitors considered that this important area of patient service should be expanded.

15.2 Emergencies

Medical emergencies and CPR were taught largely by the Department of Oral Surgery. Indeed CPR appeared as an optional subject after sessions earlier in the course. The visitors most strongly recommend that medical emergencies and CPR are taught to all staff in clinical contact with patients, and are certified every year, and that no student or faculty member should treat patients without this education. The appointment of a resuscitation officer responsible for this task would ensure that this was implemented and maintained.

16. Behavioural Sciences

16.1 Behavioural sciences and communication

The visitors felt it regrettable that the behavioural science and communications course had been suspended. This course was considered an essential pre-requisite of an undergraduate curriculum as the inevitable globalization of education calls for an increased understanding of culture values and communication. The visitors considered that efforts to recruit high calibre senior staff to re-instate this course should be made.

16.2 Ethics and jurisprudence & 16.3 Practice Management

Both these topics appeared to be the responsibility of the Departments of Preventive Dentistry and Dental Public Health. The visitors considered these subjects both core areas within the Dental Curriculum. As mentioned in Section 10, it was important to ensure that all sections within the Department were clearly defined to ensure effective teaching of all subject areas.

16.4 English Language

This course was much appreciated and highly valued by the visitors. It was considered an essential part of the development of students and staff within a European and global educational context. The enthusiasm and high regard held by the students for their teachers was evident, and even though they were sometimes reluctant to speak in English, many had excellent language skills. However, for this course to flourish, more support in terms of staffing, curricular development and equipment is required. Additions to the video and CAL library are essential and the ability to use the Internet to communicate with native speakers would be a distinct advantage. Foreign exchange should also be encouraged in English and other European languages. The visitors particularly encourage teachers' educational innovations and integration with dental disciplines.

17. Examinations, Assessments & Competences

17.1 Examinations and Assessments

The visitors recognised the variety of assessment methods including formative and summative methods used throughout the curriculae. However, as there were a variety of approaches in different Departments, the production of an overall accepted protocol for assessment should be prepared. The visitors would recommend that advice is sought from those with educational expertise to ensure that an effective assessment strategy is implemented. This should include self-evaluation for students throughout their studies, both pre-clinical and clinical. It may also include diagnostic measures to both assess learning and to evaluate the need for personal counselling.

The visitors were particularly impressed by the effective measures taken to eradicate cheating in a profession where honesty and good patient management through sound knowledge is paramount.

17.2 Competences

The visitors appreciated the difficulty in grasping the concept of competency in education and had concerns that the competency concept was both poorly understood and not fully implemented in many departments. The visitors also shared the concern with Faculty that there may be cross-clinic differences in competency definition, achievement and measurement. They considered that the criteria for the levels reaching competence should be clearly described and students informed of the evaluation methodology. Faculty will be aware of the European directives available from the Dented website (<http://www.dented.org>) that provide further guidance on this.

However, the clinical review board evaluation held regularly in all clinics was considered most valuable and should continue.

Figure 1. Mean score for students' self-evaluation of competence in all clinics

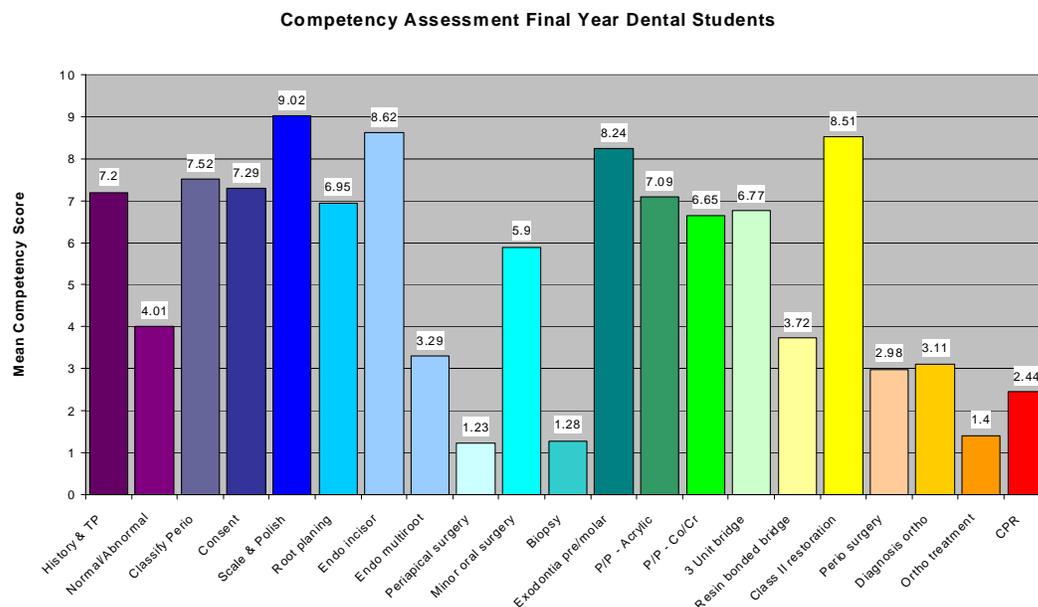


Figure 1 summarises the level of competence on a scale of 1-10 that the final year (Year 6) considered they had reached in performing 21 different clinical procedures. The visitors felt that the results were quite reasonable for students at this stage of their careers, except for their performance in CPR. As stated in Section 15 competence at basic life support is an essential prerequisite to safe practice and should be certified annually.

18. Other Influences on the Curriculum

18.1 Regional Oral Health Needs

The visitors strongly believe that the curriculum must reflect the healthcare needs of the region. This includes oral health promotion and disease prevention within both the School and the community, and an active role in influencing government policy in this area.

Furthermore, the visitors noted that dental education was managed by two government departments – Education and Health. This has meant that the Institute is repeatedly in the crossfire, which can only have a negative effect on student progression.

18.2 Evidence based treatments

The visitors appreciated that evidenced based treatments existed in many areas, and would urge all clinical areas to use this approach in decision making.

18.3-4 Involvement in Other University Activities, Recreation & Sport

Students were generally not given sufficient time to reflect in private study (white time) nor were they able to undertake regular recreation activities. The visitors strongly recommend that students are given protected white time for reflection which should not encroach on a notional half day for recreational activities. Although opportunities existed within the University for recreation, students felt that their dental course had to take precedence.

In order to achieve a balance in student life, the curriculum and number of contact hours should be decompressed. The clinics should strive for an increased time management strategy.

18.5 Student selection process

The visitors were made aware of the current competitive system of entry into the Dental Course following a large common Year 1 entry. The fact that students may choose between medicine and dentistry according to their results in the entrance exam, may lead to less motivated students studying dentistry. Faculty may consider implementing other course options and assessments to select the best students for dentistry.

19. Student Affairs

The visitors were impressed by the professionalism shown by the students who were interviewed. They were a credit to their school. However several issues became apparent that were considered essential for student well-being.

Students needed time for independent study and reflection as mentioned in Section 18. Elective visits abroad, although possible through the commendable ERASMUS scheme, meant that students often felt disadvantaged on return as they had missed part of their course. Consequently the scheme was not popular. The visitors recommend that an elective period of study is set aside in the curriculum of at least one month for all students in the latter part of their course to pursue an elective study.

The visitors were particularly concerned that there was no effective personal tutoring or counselling service provided either by the School or the University. Many students had no-one

in Faculty with whom to share their personal or academic problems. It is essential that a personal tutoring system is instigated, and staff are trained to support this.

The visitors were concerned about the compulsory periods of clinical work outside the actual terms and felt that these extra work periods should be made optional. It was noted that many students found it a financial necessity to work outside of clinics, regardless of the recent introduction of a stipend. To free up this time could improve the well being of the student by decongesting their timetable and giving free choice to those who needed to supplement their income in higher paid employment.

The visitors do commend the fact that students are represented on Committees and Boards. However, evaluation of courses and Faculty should be a requirement on a regular basis, organised by the Faculty. Indeed, the visitors were impressed that the students themselves have been nationally active in promoting this.

20. Research and Publications

The basic research programs presented to the visitors fulfilled high international standards. The production of scientific papers and Ph.D. theses were very impressive. This was particularly notable in the pre-clinical disciplines. The visitors would wish to encourage similar achievements in both clinical and educational research areas.

However, it was noted that this may be difficult if clinical staff were not allocated sufficient time for research. Such time should be protected. This would encourage the teachers in clinical disciplines to start clinical research and allow for a competitive promotion.

21. Quality Development Issues

A quality assurance programme was not presented for the visitors. However, the visitors would wish to note that for the future development of the School a comprehensive and robust quality assurance system is essential.

22. Overall Comments on the School

22.1 Main Findings

The Dental School of Paris-5 fulfils high European standards in dental education and the teachers and students appear highly motivated and engaged. The education is supported by excellent research in the basic sciences. However, clinical research is largely missing. The programme is traditional and more teacher-oriented, with a large numbers of lectures in the theoretical part of the course. On the other hand, a more student-oriented education is being introduced in some areas with small group teaching, integration in clinical teaching and other modern approaches.

The clinical part of the education is performed in four dental clinics outside the dental school. This causes transportation problems and difficulties in standardisation of teaching practice. There is, however, an adequate source of patients from the surrounding communities. The proposed move to new premises incorporating preclinical, clinical and research areas under one roof, is well founded.

The school participation in staff and student exchanges through programmes such as the Erasmus/Socrates programme, encouraged by the administration of the university, should be extended with the cooperation of countries both in Europe and globally. However, time for

student exchange and elective study should be set aside in the curriculum. The European Credit Transfer System (ECTS) is an impressive introduction.

There is a bias towards the pre-clinical studies which need to be rationalised both in terms of horizontal and vertical integration with clinical subjects. An earlier introduction to clinics for students is also strongly advised. Evaluation of courses and Faculty should be introduced and performed regularly and a comprehensive quality assurance system instigated. An important asset of the School – its students - should have adequate pastoral care, time for reflection and recreation. Some core topics need to be introduced or delineated, amongst them: Communications & Behavioural Sciences, routine CPR, Human Disease and Special Needs Care. Staff should be allowed time for research and personal development.

The administrative structure of the School is complex and reforms are needed to ensure the Dean has sufficient authority to implement the changes required for the future benefit of the School.

It is appreciated that the many changes will require considerable investment, but the returns will be substantial. The development of a thriving, modern and world renowned School will attract students and staff of the highest calibre and provide the best in education and research and the best in service to its community.

22.2 Strengths

The School of Dental Surgery at Paris-5 University already has high European standards in dental education and we find the teachers to be highly motivated and engaged in teaching. The programme of selective courses, English language, and opportunities for international rotations are important assets that broaden the minds of the students. The School recognises the need for change and has already implemented an integrated approach to teaching and learning.

Research is of high international standard especially in the basic sciences. There is clearly support from the University to develop the School effectively. Premises of an appropriate size and site have been identified for the proposed relocation.

22.3 Weaknesses

The geographical location of the School is not conducive to vertical integration of pre-clinical and clinical subjects, nor does it encourage faculty to engage in research. It does not help ensure equity in all areas of education and clinical practice across clinics. The library is in urgent need of upgrading as there is insufficient space or access to resources.

The administrative system is complex and does not allow the Dean sufficient influence to bring in the necessary reforms. A comprehensive quality assurance system does not appear to exist.

Staff have insufficient time allocated for research and personal development and students have little time for recreational activities. Some key areas of the core curriculum need to be strengthened eg CPR education and certification, Communications, Clinical Radiology, and Public Health.

22.4 Innovations

The implementation of the integrated and a student-centred curriculum is commended. The clear efforts at producing CAL and introducing high-tech simulation equipment is forward looking. Many departments have introduced innovative ideas appropriate to their speciality.

22.5 Best Practices

There is clearly excellence in teaching in several subject areas from a dedicated staff. The visitors commend the program of selective courses and that of the English language. This will allow the students to select subjects where they have an interest. Evidence based treatments are a feature of several courses. The ERASMUS scheme is a valuable asset to the School. The standard of research in the basic sciences is exemplary.

22.6 Recommendations

The visitors are pleased to recommend the following:

1. The school starts a strategic planning process, defines clear objectives for the education and states a definition of the dentist they want to produce. Faculty and students must be given the opportunity to express their ideas and preferences in smaller work groups.
2. Definitive planning of the move to new premises be made to incorporate the library/information centre, pre-clinical, research and clinical facilities under one roof.
3. In curricular planning, an emphasis on methods to enhance student-oriented learning with integration between disciplines both vertically and horizontally should be made.
4. A reduction in the number of lectures and replacement with topic specific seminars and treatment planning sessions. Lecture material should be available either as booklets or preferably on the Internet embedded in on-line courses.
5. A reduction in the number of hours for pre-clinical teaching in the laboratory and increase the number of clinical hours with an earlier introduction of students into the clinics
6. A reorganization of the reparative sciences departments should take place. A situation with one restorative department with subdivisions would greatly increase flexibility in both pre-clinical and clinical curriculum
7. A radiology qualified Faculty should rotate among the clinics to ensure the diagnostic quality
8. The Dental Public Health Department addresses the organisation of its curriculum
9. That Human Disease teaching is expanded, CPR regularly taught and with certification of all personnel in clinical contact with patients, sedative techniques introduced and the Communications Course re-instated
10. That treatment protocols and assessments are standardised across clinics
11. Students are given pastoral support and time for reflection and recreation
12. Staff are given protected research and personal development time.
13. Consideration be given to the training of professionals complementary to dentistry such as dental nurses to enhance the team care approach and broaden the educational scope with in the School.

14. Increased use of computers and IT by embedding computer assisted learning to increase the efficiency for both students and Faculty. Technical support staff will be required.
15. International exchange should be further encouraged for students and faculty. Designated funds should be allocated for this purpose and an elective period included in the timetable.
16. A comprehensive quality assurance policy is implemented.

Concluding Remarks

The visitors encourage the higher academic management and the Faculty to discuss and address our findings. In the words of René Descartes, himself, “*Je pense donc je suis*” (*I think therefore I am*).