DentEd Site Visit

Faculty of Dentistry

University of Auvergne-Clermont I

Clermont-Ferrand

France

April 24 – 28, 1999

U.F.R Odontologie (Faculty of Dentistry)

University of Auvergne-Clermont 1

Dental Centre-Training Hospital - Clermont-Ferrand

INFORMATION FOR DENTED VISITORS

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Section 1 : Introduction

1.1 Background

The Faculty of Clermont-Ferrand is one of the sixteen french Faculties of Dentistry. It belongs to the University of Auvergne-Clermont 1 which comprises the following faculties :

- Faculty of Law
- Faculty of Economics
- Faculty of Medecine
- Faculty of Pharmacy
- IUT (Academic Institute of Technology)
- IUP (Management of Firms)
- IPAG (Preparation to join a government service)

The Faculty was created in 1928. It was called " School of Dental Training " at that time and was joint with the School of Medecine and Pharmacy. Over the years, the current " Dental Faculty " was known as : Dental School of Clermont (1945), Municipal Dental School (1954), National School of Dental Surgery (1969) before beeing recognized as a proper Faculty, part of the University (1973).

The Faculty of Dentistry is under a twofold authority (Department of Higher Education and Research and Department of Health and Social Affairs) and is commissioned to turn out the intending dental practitioners, to provide continuing education to dentists and to do research .

The research activities of our Faculty are focused mainly on five topics :

- Titan alloys, PMMA-fibers
- Sjogren's syndrome, lichen
- Dental prevention, Oral assessment of Down syndrome
- Mastication and texture
- Trigeminal pain mechanisms

The clinical training of dental students takes place in the Department of dentistry of the Public Hospital of Clermont-Ferrand.

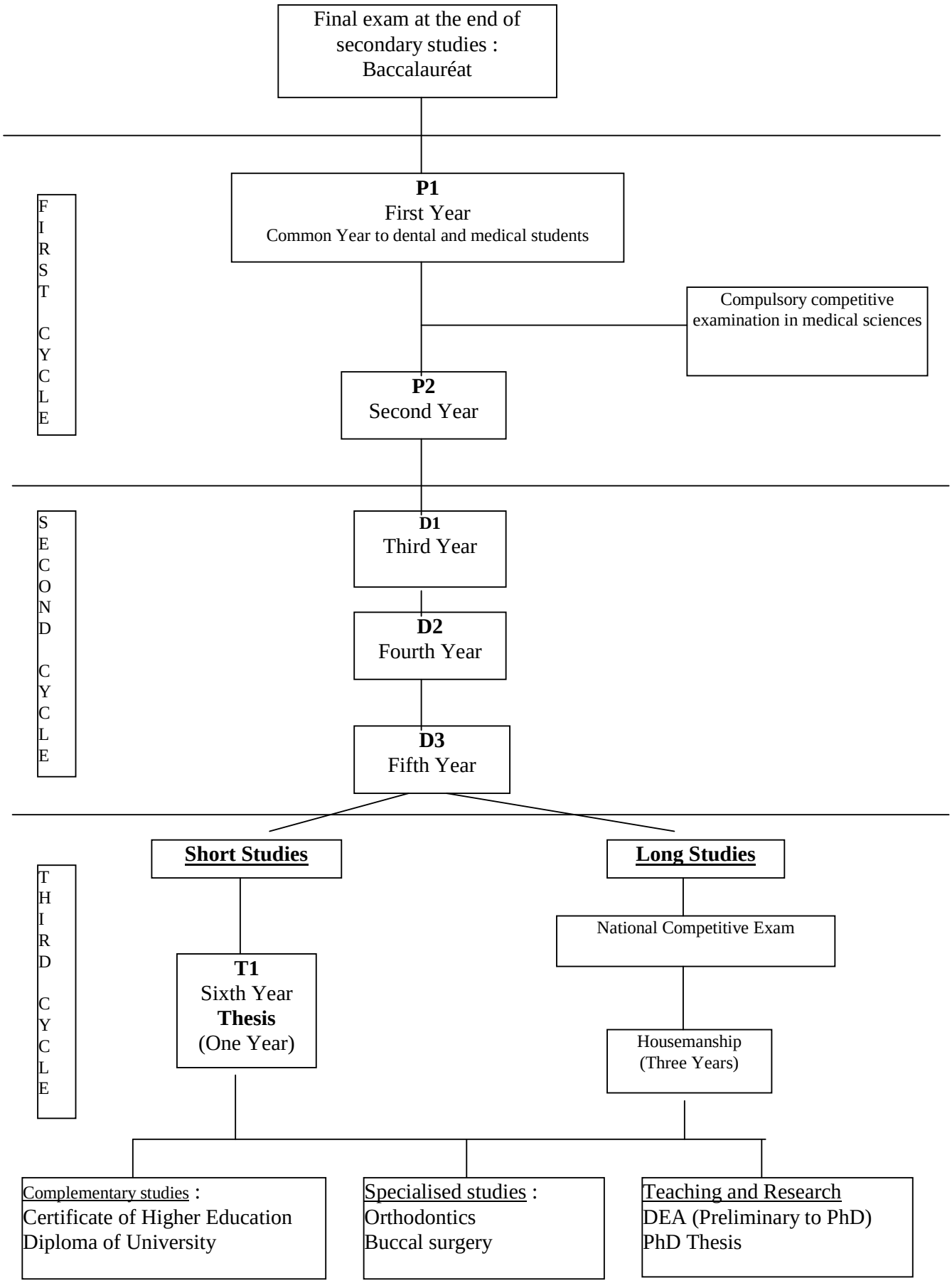
1.2 The primary functions of the institution are :

- Clinical training and education of undergraduate dental students subject to the standards laid down 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 to dental practitioners
- Research
- Patient Services

1.3 Curriculum

Since 1995, important 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 program (year 2 to year 5).

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


Final exam at the end of secondary studies : Baccalauréat
FIRST CYCLE
P1
First Year
Common Year to dental and medical students
Compulsory competitive examination in medical sciences
P2
Second Year
SECOND CYCLE
D1
Third Year
D2
Fourth Year
D3
Fifth Year
THIRD CYCLE
Short Studies
Long Studies
National Competitive Exam
T1
Sixth Year
Thesis
(One Year)
Housemanship
(Three Years)
Complementary studies :
Certificate of Higher Education
Diploma of University
Specialised studies :
Orthodontics
Buccal surgery
Teaching and Research
DEA (Preliminary to PhD)
PhD Thesis

Throughout the curriculum, the comprehensive care of the patient is persistently taken into account. To that effect, the Faculty of Clermont-Ferrand has decided to give preference to one form of teaching over another. The various possible profiles of patients are considered, thus making it possible for " specialities " to emerge and to be taught in " modules ". This new organisation takes over from the former one which consisted in the traditional teaching of separate dental matters (prosthetics, periodontology, endodonty, conservative odontology, paedodontics…). Some examples of " modules " are Prevention of oral diseases, Full Denture, Pathology and Treatment of the Tooth, Therapy of the Tooth Loss…Professors of different dental specialities work together within a same module.

General aims

- To provide future dentists with an ethical and appropriate scientific foundation
- To promote and develop clinical competence in primary oral health care and prevention
- To provide an environment that encourages self-learning, scientific analysis, moral values and recognition of societal responsabilities
- 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

- Organized in pluridisciplinary subjects according to patients and agreed by all
- Continuously under review
- Assessment methods complement educational objectives and methods
- All activities (education, research, dental care) are located in the same building

Weaknesses

- Difficulty in balancing integrated patient care with appropriate patient supply
- Assessments methods are still in the process of being introduced and refined : there is a lack of staff training

- Curricular implementation, research duties and dental service cause considerable work load for all academic staff members. Moreover, the ratio Full time/Part time is dramatically low in our Faculty.
- We have one of the smallest academic staff among the French dental Faculties. This implies a reduced activity in continuing education.
- Lack of space for dental service, research and learning facilities.
- Lack of technicians. Our video equipment is not as profitable as it may be.

Innovations and Best Practices

- New assessments methods
- Physical facilities : the faculty was rebuilt in 1992
- Student assessment of some courses
- Patient centred student orientated training/learning
- Lectures, preclinical work, clinics related to a " profile of patient " are integrated in a same module and often take on one year. This imply that our students have an early clinical exercise. They treat patients as early as the 3rd year(D1).
- Efficient development of information technology : our faculty has a web site and all students have a e-mail access.
- International activities of undergraduate students (Socrates exchanges with Dundee, Scotland and Roma-Chieti, Italy) and academic staff (exchanges with Burkina, the Lebanon, Morocco and Senegal)

Plans for Future Changes

- A continuous training unit has just been structured. Its first aim is to elaborate a program 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.
- To strenghten the exchanges we have yet with other french (Paris V, Rennes) or foreign Faculties (Quebec, the Libanon…)
- The setting up of a help during practicals for the second and third year students by 6th year students.

The organization of the new curriculum is appended below. The last year (6th Year or T1) will be implement only next year. It will be essentially focus on comprehensive care of the patient. But the exact program of this year is not yet definitely decided.

First Year P1

Common with the first Year of the medical studies

Taught at the Faculty of Medecine of Clermont-Ferrand

Subjects
Biophysics and Physics
Biochemistry and Chemistry
Cellular Biology and Molecular Biology
Law – Professional Ethics
Health Economy - Demography
History of Medecine
Medical Sociology
Anatomy and Physiology
Biology of the development – Embryology - Histology

Second Year P2

Profile	Subjects
Initial Practical Training module 1	Statistics Computer Sciences Litterature Biomaterials Knowledge of dental instruments Skills
Biology module 1	Biophysics General Physiology Orofacial Physiology
Biology module 2	Craniofacial Anatomy Dental Anatomy
Biology module 3	General Pathology Embryology Histology
Biology module 4	Bacteriology Biochemistry Immunology Virology
Pathology and Medical Therapeutics module 1	Clinical and Biological Semeiology Radiology
Pathology and Medical Therapeutics module 2	Human Diseases
Buccal Ecosystem Module 1 : healthy state	Oral microbiology Oral biochemistry Embryology and Histology of the tooth
Foreign Language Learning	English
Training Period at the hospital	Nurse skills learning
Electives	One choice among : English (improvement) Computer Use (Level 1) Vocational Training Sport (golf, badminton, archery) Choral Singing First Aid

Third Year D1

Profile	Subjects
Initial Practical Training module 2	Ethics Ergonomy Hygiene Behavioural Sciences and Communications
Pathology and Medical Therapeutics module 3	General Pathology Oral Pathology
Pathology and Medical Therapeutics module 4	Pharmacology Anaesthesiology Tooth Extraction Simple Oral surgery
Pathology and Medical Therapeutics module 5	Oro-Facial Pathology Periodontal Pathology
Orthodontics module 1	Orthodontic Basics
Buccal Ecosystem module 2 : imbalance and its prevention	
Pathology and Treatment of the Tooth Module 1	Simple Conservative Dentistry (1st Part)
Pathology and Treatment of the Tooth Module 2	Simple Fixed Prosthodontics
Therapy of the Tooth loss Module 1	Edentulous State Biomaterials
Therapy of the Tooth loss Module 2	Simple Removable Prosthodontics Biomaterials
Foreign Language Learning	English
Electives	One choice among : English (improvement) Computer Use (Level 2) Introduction to Research (Level 1) Sport (golf, badminton, archery) Choral Singing First Aid

Fourth Year D2

Profile	Subjects
Pathology and Treatment of the Tooth Module 3	Simple Conservative Dentistry (2nd Part) Biomaterials
Pathology and Treatment of the Tooth Module 4	Periodontal Pathology and Therapeutics
Pathology and Medical Therapeutics Module 6	Complex Oral Surgery (1st part)
Therapy of the Tooth loss Module 3	Simple Prosthodontics Biomaterials
Child Dental Health Module 1	
Practice Management and Community Health Module 1	Ethics and Jurisprudence Behavioural Sciences and Communications Computer Sciences focused on Dentistry
Orthodontics Module 2	Introduction to therapeutics
Training Period in Hospital Departments	A 3 weeks full-time training period in the following departments : Emergencies Cancerology Haematology Anaesthesiology - Resuscitation Dermatology ENT (Ear-Nose and Throat) Facial Surgery
Electives	One choice among : English (improvement) Introduction to Research (Level 2) Dentistry of Sport Care of Special Needs Patients (Level 1) Sport (golf, badminton, archery) Choral Singing First Aid

Fifth Year D3

Profile	Subjects
Pathology and Medical Therapeutics Module 7	Complex Oral Surgery (2nd part)
Pathology and Treatment of the Tooth Module 5	Complex Conservative Dentistry
Pathology and Treatment of the Tooth Module 6	Periodontal Therapeutics
Practice Management and Community Health Module 2	Computer Sciences focused on Dentistry Epidemiology Health Economy
Therapy of the Tooth loss Module 4	Complex Prosthodontics
Orthodontics Module 3	Therapeutics
Child Dental Health Module 2	
Multidisciplinary Course Module 1	Implantology
Electives	One choice among : Introduction to Research (Level 3) Dentistry of Sport Care of Special Needs Patients (Level 2) Sport (golf, badminton, archery) Choral Singing First Aid

1.4 University Budget

University budget

(Research and hospital service excluded) :

Academic year 1998-1999

- University working : 1 415 454 FF
  - Private means (taxes paid by businesses to fund training programmes, renting of Lecture Hall…) 37%
  - Financial contribution of the government 48%
  - Student fees 15%

- Investment (equipment replacement) : 170 000 FF
  - Government 100%

Section 2 : Facilities

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

Dr Maurice MORENAS, e-mail : Maurice.Morenas@u-clermont1.fr

Pr Jean-Claude BOREL

2.1 Clinical Facilities

The Department of Dental Care (= Dental Centre) forms an integral part of the teaching hospital at Clermont Ferrand. It is one of 60 treatment services within the hospital.

The Dental Faculty and the Dental Centre have the same mission of teaching theoretical and clinical knowledge to dental students and forwarding research. This association joins the two entities under the title of Centre for Dental Treatment, Teaching and Research.

Nevertheless, the Dental Centre and Dental Faculty are managed entirely separately and each belong to different organisations:

The Faculty forms part of the University of Auvergne

The Dental Centre forms part of the Teaching Hospital.

a) The Personnel

a.1 Dentists.

a.1.1 Permanent staff

University professors / consultants (PuPh) :	3
1st Grade professors (Pr1G)/ consultants :	3
Senior lecturers / consultants (McuPh):	18

Total of 24 permanent staff of which,

Full time:	8
Part time:	16

a.1.2 Staff on contracts of determined length

Clinical assistants:	17

All part time.

a.1.3 House officers

Young clinicians involved in postgraduate training	4

All full time.

The house officers treat patients but have no role in teaching except for the preparation of certain students for admission to the house officer grade.

a.1.4 Clinical demonstrators

General practitioners who dedicate one or two sessions a week to supervise students on clinic.
Year 1998-99: 25

a.2 Hospital staff

Administration:	3 secretaries
Hospital staff:	1 senior nurse
	1 nurse
	5 auxiliaries
	1 sterilisation auxiliary
	1 hospital domestic
	1 prosthetic technician
	1 radiographer (part time)

b) The buildings

b.1 The Dental Centre covers 1250 m^2. It is spread over two floors:

Ground Floor:	Reception
	Patient allocation unit (3 chairs)
	Treatment clinic (34 chairs)
	Orthodontic clinic (6 chairs)
	Radiology unit (orthopantomogram and lateral skull radiographs)
	Sterilisation unit
	Prosthetic laboratory
	Radiology unit (2 chairs)

This floor holds the polyclinic where all the different types of dental treatment are undertaken by students under supervision of the teaching staff.

First Floor:	8 dental surgeries for consultants clinics and treatment by the House officers.

b. 2 Outbuildings

1 dental surgery in the prison

2 dental surgeries in the North Hospital.

b.3 Other available structures

- Operating theatre for treatment under local or regional anaesthesia in the Maxillofacial Surgery Department (for implantology and orthodontic consultants clinics).
- Operating theatre for treatment under general anaesthetic in the Trauma unit of the Maxillofacial Surgery Department.
- Operating theatre for treatment under general anaesthetic in the Paediatric Surgery Department (for children with special needs).
- Dental surgery in the Maxillofacial Surgery department for emergency treatment at weekends and bank holidays.
- Homes and Centres for persons with special needs for dental examinations, prevention workshops and teaching

c) The two treatment missions

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

c.1 The dental polyclinic (teaching mission).

Patients are treated by students. They are supervised by teaching staff who are ultimately responsible for the work undertaken. The polyclinic receives a large number of patients who all have different needs. Some request only emergency treatment, others wish to follow a full treatment course at the Dental Centre. The receptionists appoint the patients to either the emergency clinic or the patient allocation clinic.

<u>The patient allocation clinic.</u>

This clinic is by appointment only and takes place over one or two, 2-hour sessions a day, from Monday to Friday. 1 demonstrator and 4 fourth year students run the clinic.

The aims of this first consultation are:

- Overall patient assessment and identification of patients at risk
- Dental assessment
- To establish the needs and demands of the patient
- Allocation of the patient to the student polyclinic, the house officers or the consultants clinics.

Emergency clinic.

This clinic takes place every day from 10 to 12 am and from 3 to 5 pm from Monday to Friday. The clinic is run by 1 demonstrator and 4 fifth year students who undertake examination, diagnosis 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 principle discipline is defined at the patient allocation clinic and this corresponds to the greatest treatment need of the patient. This discipline is then responsible for the treatment plan and has overall responsibility for the patient. The principle discipline is usually Conservative dentistry, Prosthetics or Periodontology.

2. The polyclinic is not divided into areas for each discipline, with the exception of Orthodontics that has six separate chairs and Oral Surgery that has two. Each student always uses the same dental chair, regardless of the type of treatment to be undertaken. Simultaneous supervision by teachers from each of the three main disciplines is undertaken during several clinical sessions.

These conditions allow agreement to be reached between the student, the patient and teachers from each of the disciplines and therefore helps the student to understand the notion of a global treatment plan.

Student attendance at the Dental Centre varies according to the teaching curriculum over the 2nd, 3rd, 4th, 5th and soon the 6th years.

c.2 Consultants clinics (Hospital mission).

Patients referred to the Dental Centre by general dental practitioners, general medical practitioners or hospital departments are treated in the consultant clinics by the hospital dental staff. This service undertakes difficult cases (in orthodontics, prosthetics, implantology, oral

surgery etc.) or patients that have difficulty finding care in general practice (special needs patients, work up for cardiac surgery, preventive dentistry, testing for patients at risk of dental caries etc.).

Other clinics include:

- The dental clinic at the North Hospital for long stay geriatric patients.
- The dental clinic at the prison.
- The dental clinic for the university health programme. All students who are part of the two universities of Clermont Ferrand are entitled to a free dental examination.

These three clinics are undertaken by dental staff.

Dental Centre – Consultants Clinics	
Paedodontics	Pr Deloup Dr Besse
Orthodontics	Dr Chambas Dr Bourdiol
Periodontology	Dr Coudert Dr Renoir Dr Douillard
Oral Surgery, Oral Pathology	Pr Baudet Pr Chamard Dr Borel J.F.
Orofacial Pain	Pr Woda
Endodontics	Dr Roux
Special Needs	Dr Hennequin Dr Faulks Dr Veyrune
Prosthetics	Pr Borel J.C.
Implantology	Pr Baudet Dr Morenas Dr Lescher Dr Douillard Dr Parot
Preventive Dentistry	Dr Tubert Dr Albert-Gauthier
TMJ Clinic	Dr Levadoux Dr Pionchon

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 assured 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 on clinic:

● Instruments are supplied in sterile packets according to the treatment to be performed. Fourth year students help with decontamination, conditioning and sterilisation of instruments (a weekly session of 2 hours per student). The list of which tray contains which instruments, is contained within 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 in the first term of the third year, just before they start on clinic.

d.3 Patient satisfaction

A survey of patient satisfaction was undertaken in 1996 and is joined to this document.

e) Management of the Dental Centre

e.1 Receipts

e.1.1 Centralised documentation

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

e.1.1.2 All payment for each item or consultation is 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 items of treatment performed, the student and the demonstrator responsible for the patient.

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

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

e.1.3 Audit of activity

The unit of analysis and management provides an annual overview of the activity of each discipline and consultants clinics.

e.2 Expenditure

The department of Odontology does not have its own budget and does not have any autonomy in decisions of expenditure. For many years now expenditure has been governed 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 rate of inflation. This system aims to control expenditure without taking into account the developments that may occur within a department and is in the process of being replaced.

f) Strengths of the Dental Centre

f.1 Buildings

- Recently constructed building and polyclinic specially designed
- Technical equipment satisfactory

f.2 Polyclinic

- Patient allocation unit well organised
- Emergency treatment available
- Organisation of the student rotas is well organised

f.3 Consultants clinics

- Management of hospitalised patients and difficult cases
- Specialist clinics for orofacial pain patients and special needs patients rarely managed in general practice.

f.4 Safe treatment and files

- File enables identification of high-risk patients (the file is joined to this document)
- Frequent reminders of the need to keep the file up to date

f.5 Cross infection control

- Rational organisation of sterilisation and organisation of instruments
- Initiation of the D1 students to clinical activity

f.6 Patient satisfaction

- Generally well satisfied

f.7 Management of income

- Strict collection of fees due according to the treatment as noted in the file
- Files are in development for patients under recall, implant patients and those awaiting prosthetics

f.8 Management of expenditure

- Open market for the provision of prosthetic lab work

g) Weaknesses of the Dental Centre

g.1 Dentists

- Insufficient staff
- Part time status inappropriate
- Clinical demonstrators almost benevolent
- Wait for full-time clinical assistant posts to be freed for those finishing house jobs.

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 Buildings

- Insufficient room for consultants clinics
- Structure not accessible for patients in wheel chairs or on stretchers

g.4 Outbuildings

- Access to operating theatres (in and out patient) is insufficient
- Dental equipment is not kept or sterilised in the theatre complexes.

g.5 Cross infection control

- Sterilisation unit to be modified and isolated – depending on changes to the central hospital sterilisation.
- Supervision of the clinical activity in year D1 insufficient

g.6 Patient satisfaction

- Criticism has not yet been acted upon but the global project for the establishment includes their consideration

g. 7 Management of income

- Lack of a computerised file allowing the progress of treatment to be followed.

h) Plans for Future Changes

The Dental Centre was reorganised in 1992 but is limited in its development by two factors:

- The polyclinic would be of more benefit to students in years D2, D3 and T1 if it was open longer hours.
- The consultants clinics cannot expand if further space is not provided. The overall Hospital Project provides an opportunity for this within the Dermatology/Maxillofacial/Odontology group that has been created. This consultation would provide specialist dental treatment.

2.2 Teaching Facilities

The Dental school has the following :

1 Lecture Hall (330 seater)

4 Lecture Rooms (3 with 50 seats, 1 with 20 seats)

1 Video studio with intra-oral, extra-oral and full view camera.

Strengths

- The images captured within the video studio will be projected into the Lecture Hall allowing interactive teaching
- All the lecture rooms and the lecture hall are fitted out with dual slide projection, video, audio, computer projection.

Weaknesses

- The space available and the budget was limited thereby reducing available space and resources. There will be a lack of space next year with the additional 6th year.
- There is no room to allow students to work when they have free time. They go either at the library or in a empty lecture room.

Innovations

- Our video equipment may be a useful tool for continuing education course for dental practitioners.

2.3 Teaching Laboratories

The Dental school has the following :

1 Teaching laboratory (55 seater) devoted to the initial practical training

1 Teaching laboratory (55 seater) with manikin heads for the preclinical work

1 Teaching laboratory (30 seater) devoted to X-Ray learning

1 Teaching laboratory (25 seater) devoted to practicals in Biological Sciences

1 Technician laboratory (9 seater) where students are supervised by two laboratory technicians

Strengths

- The two 50 seaters laboratories are fitted out with small video camera at lecturers workstation which is projected onto 6 large television screens.
- In the laboratory devoted to Biological Sciences, there is a microscope fitted out with a camera which is projected onto a screen television.

Weaknesses

- Budget is limited thereby reducing resources
- There will be lack of available space next year with the additional 6th year.

Best Practices

- Design of laboratories for multi-purpose use

2.4 Research Laboratories

Pr Alain WODA , e-mail : Alain.Woda@u-clermont1.fr

The research activities of our faculty are focused mainly on five topics:

- Titan alloys, PMMA-fibers
- Sjogren's syndrome, lichen
- Dental prevention, Oral assessment of Down syndrome
- Mastication and texture
- Trigeminal pain mechanisms

The two first topics are realized in cooperation with external laboratories. The three others are developed in the research department of the faculty managed by Pr Alain WODA.

Summary of projects and strenghts

Dental prevention, Oral assessment of Down syndrome

This group is devoted to epidemiological studies in both the general population and in people with Down syndrome.

In the general population evaluation of several aspect of dental caries prevention in Auvergne have been performed. One of the last studies was aimed at testing the result of sick-fund program. The results are being used to improve the program in order to spread its application to new sick-funds or/and to other region of France.

The studies conducted in the Down syndrome population try to give an overview of the problems confronting Down syndrome patients such as oral health service access, the nature of the orofacial health problems, the determination of the predictors of the received dental treatments, the level of pain threshold in these patients and the exploration of new treatment modalities.

The researchers working in this area have direct output to dental health and are in direct relation with or are themselves active clinicians.

Mastication and texture

This group is devoted to the study of mastication from different and complementary points of view. The first one is working on the basic mechanisms involved in the process of chewing of food models of known rheological properties with a simultaneous appraisal of perception of the food texture. The second is interested in the clinical evaluation of dysfunctional mastication in deficient, either Down syndrome or edentate, patients. A third item is directed at the study of the effect of mastication on the general health. The group masters many different techniques such as electromyography recording of the masticator muscles, jaw movement recording by a magnetic device, chewing recording by videotape, chewing performance by responses to a questionnaire, rheological measure of food and finally psychophysical recording of perception of food. A good feature of this axis is that the different items closely interact. For example, the clinician researchers are using the food models developed by basic researchers and the two or three different techniques of jaw movement tracking are being confronted in order to validate the new ones.

Trigeminal pain mechanisms :

Trigeminal acute and chronic pain, including pulpitis, trigeminal neuralgia, atypical facial pain, TMJ disorders and migraine constitute a major health problem of great socio-economic

impact. For improved treatment and prophylaxis of these disorders, a better understanding of the basic mechanism underlying the acute and chronic pain is needed. The objective of our project is to investigate the mechanisms of the transmission and the modulation of the nociceptive information from the orofacial area, including the role of and the interaction of neurotransmitters and subgroups of receptors (NMDA, Substance P, GABA, Glycine receptors), and possible morphological changes and central sensitization in this area.

These researches require wide ranges of methods and know-how including histological and neuroanatomicals methods, different electrophysiological techniques, neurochemicals methods, behavioral methods in freely moving animals. Our group has experience in electrophysiological and behavioral studies of mechanisms of nociception in the trigeminal sensory complex. Recently the group has developed anatomical and immunohistochemical studies in the trigeminal sensory complex. New and very sensitive tracing techniques and immunochemistry at the light microscopic as well as electronic level will be used.

The group is also carrying out clinical studies on the taxonomy of the idiopathic orofacial pain (stomatodynia, odontalgia, atypical facial pain, TMJ disorders...), a development of new strategies to relieve some form of atypical facial pain i.e., stomatodynia, and development of an orofacial pain test. All these investigations are parallel to some of animal's studies.

The members of the group have published articles in the best journals in the fields, like Pain, Journal of. Neuroscience, European Journal of Neuroscience, Journal of Comparative Neurology, Brain Research, European Journal of Pharmacology…

The groups have a cooperation with the national (Dr. Besson, INSERM U-161) and international laboratories in Europe (Dr. Berge, ASTRA Pain controls, Sweden) and in Canada (Pr Lund, Montreal; Pr Sessle, Toronto) working on these topics.

Weaknesses

Until 1992 the space devoted to the research laboratories was limited due to the low level of research activities in our faculty and to budgetary reasons. After the rebuilding of the faculty, 300 m2 was allocated to research. Unfortunately, due to the rapid growing of the laboratory it is already insufficient.

The second handicap is that many members of the laboratory work part-time.

We are very busy with teaching and/or clinic and, are dramatically not numerous enough.

20.6Department of Information Technology

Dr Bernard CHAUMEIL, e-mail : Bernard.Chaumeil@u-clermont1.fr

Dr Frédéric MORIN, e-mail : Frederic.Morin@u-clermont1.fr

a) Content

This unit was created in the 1990's to help with teaching and has developed around several areas including initial training, postgraduate training and communication.

b) Aims and objectives

Undergraduate teaching:

- Apprenticeship in computer studies in year P2.
- Optional modules for additional training on two levels for years P2 and D1.
- Habitual use of computers in years D1, D2, D3 and T1.
- Self training.
- Communications via the internet and the intranet.
- Training in use of professional software in year D3.
- Training in digital radiology in year D3.
- Disposition of computer assisted publishing (PAO and pre AO), tables and statistics packages (for those writing their theses).
- Self learning packages for foreign languages (English).
- Courses spent in a professional environment.

For teachers:

- Possibility of using hard and software.
- Production of slides.
- Initial training.
- Technical assistance.
- Possibility of using the intra- and internet.

For professionals:

- Communication with other dentists via the net.

- Postgraduate training on site or at a distance.

c) Resources

Hardware:

- 1 internet-intranet server.
- 20 networked Macintosh and IBM computers.
- 8 printers, of which 4 colour.
- 2 black and white scanners.
- 1 colour scanner.
- 1 slide scanner.
- 1 language bay.

Manpower:

- 1 full time technician.
- 1 part time secretary.
- 1 part time consultant.
- 1 part time associated consultant.
- 1 ex clinical assistant (voluntary).
- 6 voluntary attached clinicians.

Structure:

- 1 teaching room.
- 1 research room.
- 1 control room.

d) Methods of assessment

- Year P2: Continuous assessment, MCQs, assessment grids, presentations.
- IT modules (P2, D3): project presentation, assessment grids.
- Year D3: assessment grids (set by the course leader) and course reports.
- The teaching staff are evaluated by the students using an evaluation grid.

e) Strengths

(As reported by staff and students)

- The quantity and quality of the equipment.

- The competence and efficiency of the staff.
- The conviviality in the unit.
- The presence and availability of the staff.
- The courses in P2.
- The spirit of imagination and innovation in the unit.
- Each student has his own e-mail account

f) Weaknesses

(As reported by staff and students)

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

2.6 Library

Mrs Christiane DURIF (Full time)

Miss Christine GUERIN (Part-Time)

The library is open 46 hours per week

Strengths

- Our library is a specialist one providing undergraduate and postgraduate access to holdings specific to the teaching of dentistry and to the provision of patient care. Stock acquisition is directly related to teaching requirements and reflects the needs of all its users. Monograph and journal acquisitions are all designated to dentistry and to the broader area of medecine.
- Its holdings include 1520 monographs and 40 periodicals.
- Undergraduate and postgraduate students, staff actively involved in research have access to medical litterature searching facilities i.e.Medline in addition to e-mail facility and Internet access.
- A general reservation/loan service ensure continuing circulation of stock to all users. This was made possible thanks to the implementation of an automation system for loan reservation/return.

- Library staff are committed to provide information guides to valuable sources of information and to make this information available to staff and students.
- Users also have access to general Library facilities within the two Universities of Clermont-Ferrand and access to other collections throughout France via the " Inter-Library Loan " system.

Weaknesses

- Lack of computers to have an access to the Internet.
- Limited opening hours due to limited human ressources Nevertheless, the library is open during lunch time

Best practices

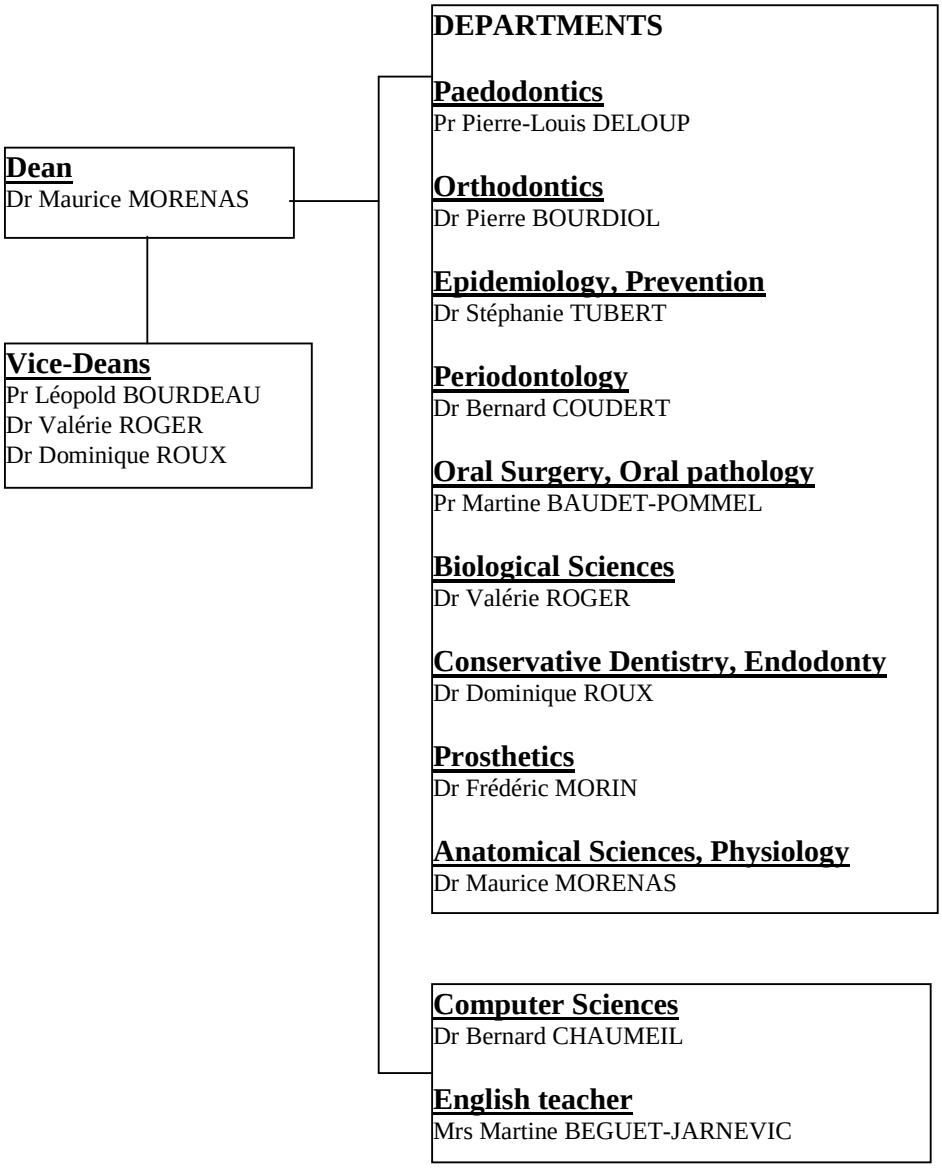
- The french periodicals are all analysed and classified according to key words and authors in a computer programme. This allows a simplified litterature research for our students.

Section 3 : Administration and Organisation

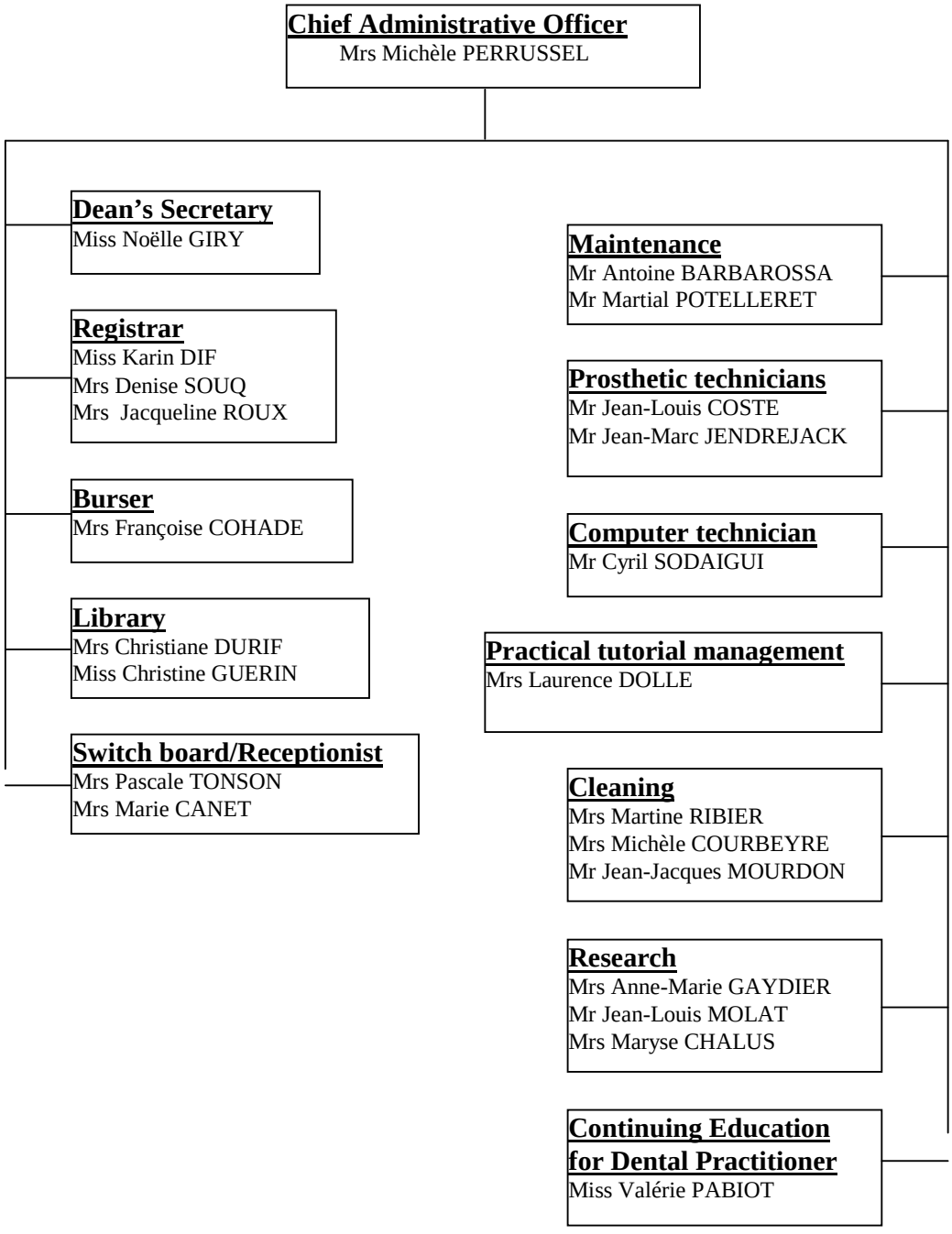
Dr Maurice MORENAS, e-mail : Maurice.Morenas@u-clermont1.fr

3.1 Clinical/Academic Organisational Structures for school and hospital

Organisational Structures for School



3.2 Non-Clinical/Academic Administrative Structures



Section 4 : Staff

Dr Maurice MORENAS, e-mail : Maurice.Morenas@u-clermont1.fr

Clinical Academic Staff Statistics :

University professors / consultants (PuPh) :	3	(All Full-time)
1st Grade professors (Pr1G)/ consultants :	3	(1 Full-Time, 2 Part-Time)
Senior lecturers / consultants (McuPh):	18	(4 Full-Time,14 Part-Time)
Non Senior Staff	17	(All Part-Time)
Teachers without clinical duties	3	

Academic Staff

Department of Paediatric Dentistry

Pr Pierre-Louis DELOUP, Head of Department, Professor

Dr Hervé BESSE, Senior Lecturer

Dr Emmanuel NICOLAS, Assistant

Department of Orthodontics

Dr Christian CHAMBAS, Senior Lecturer

Dr Pierre BOURDIOL, Head of Department, Senior Lecturer

Dr Françoise CHAIZE, Assistant

Dr Catherine MALLICK, Assistant

Dr Laurence ROSSIGNOL, Assistant

Department of Public Health

Dr Stéphanie TUBERT, Head of Department, Senior Lecturer

Dr Christine ALBERT-GAUTHIER, Assistant

Department of Oral Surgery, Oral Medecine and Oral Pathology

Pr Martine BAUDET-POMMEL, Head of Department, Professor

Pr Jean CHAMARD, Professor

Dr Jean-François BOREL, Assistant

Department of Periodontology

Dr Bernard COUDERT, Head of Department, Senior Lecturer

Dr Jean-Marie RENOIR, Senior Lecturer

Dr Yves DOUILLARD, Senior Lecturer

Dr Véronique DEFFONTIS, Assistant

Department of Biological Sciences

Dr Valérie ROGER, Head of Department, Senior Lecturer

Dr Thierry ORLIAGUET, Senior Lecturer

Department of Restorative Dentistry and Endodontics

Pr Alain WODA, Professor

Pr Leopold BOURDEAU, Vice Dean, Professor

Dr Martine HENNEQUIN, Senior Lecturer

Dr Dominique ROUX, Head of Department, Senior Lecturer

Dr Séverine DELUZARCHE, Assistant

Dr Caroline GONDLACH, Assistant

Dr Sophie ORLIAGUET, Assistant

Dr Nelly SUGNAUX, Assistant

Department of Prosthetic Dentistry

Pr Jean-Claude BOREL, Professor

Dr Didier COMPAGNON, Senior Lecturer

Dr Jacques LESCHER, Senior Lecturer

Dr Anne-Marie LEVADOUX, Senior Lecturer

Dr Frédéric MORIN, Head of Department, Senior Lecturer

Dr Jean-Luc VEYRUNES, Senior Lecturer

Dr Kamel BENHADJ, Assistant

Dr Alban BRESSON, Assistant

Dr Claire LASSAUZAY, Assistant

Dr Jean-François VEST, Assistant

Department of Anatomical, Physiological, Radiological and Occlusal Sciences

Dr Maurice MORENAS, Dean, Head of Department, Senior Lecturer

Dr Rhadouane DALLEL, Senior Lecturer

Dr Valérie COLLADO, Assistant

Dr Denise FAULKS, Assistant

Dr Paul PIONCHON, Assistant

Teachers without Clinical Duties

Mme Martine BEGUET-JARNEVIC, graduate in English (who has passed the agrégation examination)

Dr Daniel VOISIN, Senior Lecturer, Physiology

Dr Bernard CHAUMEIL, Associated Senior Lecturer, Computer Sciences

Other Clinical Staff

Clinical demonstrators 25

Dr Eric ARVOUET, Periodontology

Dr Dominique AUBAZAC, Periodontology

Dr Madeleine BESSE, Orthodontics

Dr Maryse BORDES, Oral Surgery

Dr Françoise BUFFARD, Orthodontics

Dr Christelle CHANCRIN, Prosthetic Dentistry

Dr Brigitte CHASSAGNETTE, Orthodontics

Dr Bernard DE BARRUEL, Periodontology

Dr Bernard DUMON, Prosthetic Dentistry

Dr Christine DUPRE, Orthodontics

Dr Philippe DUROUX, Prosthetic Dentistry

Dr Véronique FLOURET-BRUGEAT, Prosthetic Dentistry

Dr Françoise GASPARD, Conservative Dentistry

Dr Jean-Luc GENTILUCCI, Conservative Dentistry

Dr Nathalie LELEU, Orthodontics

Dr Christian LLOPIS, Conservative Dentistry

Dr Jean-Pierre PAROT, Implantology

Dr Frédéric PIRONIN, Orthodontics

Dr Fabrice POISEAU, Oral Surgery

Dr Chantal RAMANITRERA, Prosthetic Dentistry

Dr Joël ROSSIGNOL, Oral Surgery

Dr Bruno SANTONI, Conservative Dentistry

Dr Marcel VEDILLE, Oral Surgery

Dr Pierre VERLEY, Oral Surgery

Dr Marie-Claude ZARANTONELLO , Paediatric Dentistry

Other staff belonging to the University

Practicals demonstrators or Part-time university lecturer	8

Dr Jean-Pierre BONNEVILLE, Computer Sciences
Dr Alain CHAPUT, Computer Sciences
Dr Jean-Jacques CROZAT, Computer Sciences
Dr Jean-Michel D'AGROZA, Computer Sciences
Dr Jean-Christophe MAZUEL, Electives
Dr Stéphanie SABY, Epidemiology
Dr Sylvain SANTONI, Dental Anatomy
Dr Jean-Luc VERDIER, Computer Sciences

Clinical Services Staff

Secretaries	3
Senior nurse	1
Nurse	1
Auxiliaries	5
Sterilisation auxiliary	1
Hospital domestic	1
Prosthetic technician	1
Radiographer (Part time)	1

Non Clinical/Academic Staff

Chief Administrative Officer	1
Burser	1
Library	2
Secretaries	3
Registrar	3
Switch board/Receptionists	2
Maintenance technicians	2
Prosthetic technicians	2
Research technicians	2
Information technology	1
Floor managers	3

Section 5 - 16 : The Dental Curriculum

Introduction

The Dental curriculum of the school of Clermont-Ferrand is structured on " profiles of patients ". The programme has been fundamentally altered in order to promote a student orientated learning with emphasise on comprehensive care of the patient. The compartmentalised approach of the DENTED visitation document does not easily lend itself to our new curriculum.

That's why in a first part we have introduced the chart of the organization of our new curriculum (see pages 9-13). Then every effort has been made to comply with the DENTED canevas.

Section 5 : The Biological Sciences

5.1 Biochemistry

Pr Pierre-Jean BARGNOUX

Dr Valérie ROGER, email : roger@clermont.inra.fr

20 Introduction

A knowledge of core concepts in biochemistry is essential to understand the normal human structure and function. It is therefore an essential component of the dental undergraduate curriculum.

This course takes place in the second year of the curriculum (P2) in a profile entitled "Biology" and is teached at the same time as general microbiology and immunology.

21 Primary Aims

- To provide students with a basic knowledge and understanding of biochemistry and its general application in human structure and function
- To enable students to understand the biochemical aspects of the practice of dentistry and to be aware of and capable of responding to the continuous advances in this field.

22 Main Objectives

Students are expected to have an appropriate understanding of the following :

- Protein structure and function including enzymology
- Carbohydrate structure and metabolism including electron transport and oxidative phosphorylation, nutrition and energy
- Lipid structure and metabolism
- Cell membranes and metabolite transport
- Nucleic acids
- Endocrinology, the roles of hormones
- Connective tissues with special emphasis on blood and bone
- Calcium and vitamin D
- Fluor metabolism
- Renal function

23 Hours in the Curriculum

50 hours of lecture

24 Methods of Learning/Teaching

- Lectures
- Interpretation of biological tests (blood, urine)

25 Assessment Methods

A two hours written exam with :

- Multiple choice questions
- Short-answer questions
- Structured questions

26 Strengths

The permanent effort made to link this basic science with the dental practice

27 Weaknesses

- Due to a weak staff in the Department of Biological Sciences of our school, the course is actually managed by a hospital medical practitioner. This can make difficult the teaching of the general application of biochemistry in dentistry.
- The method of teaching/learning is also a weakness of this course. Implementation of problem based learning and introduction of practicals may be the best methods to enable students to understand the biochemical aspects of the practice of dentistry.

28 Innovations and Best Practices

This biochemistry course is specifically designed for the dental curriculum which means that only the elements of biochemistry deemed relevant by our faculty in association with Pr Bargnoux are included.

29 Plans for Future Changes

20.6 Physiology

Pr Alain WODA, e-mail : Alain.Woda@u-clermont1.fr
Pr Jean-François JARRIGE
Dr Daniel VOISIN, e-mail : Daniel.Voisin@u-clermont1.fr

1. Introduction

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 Medecine. P stands for Premier Cycle (First Cycle), which is a two year period.

First cycle (P1) students are required by Law to acquire knowledge in the Basic Sciences and to become sensitized to Scientific Research. In addition, they should be able to make a choice with respect to their professional orientation.

Practically, dental students make their choice and thus start their specific curriculum at the Faculty of Odontology as P2 students.

The physiology course in the dental undergraduate curriculum is complementary to the P1 physiology course, previously taught at the Faculty of Medecine : both introduce students to all aspects of human physiology. The official subject areas are : Transmission and control of information (section V_2) and main functions of the body and homeostasis (section V_4). During

the first semester of P2, dental students receive the complement of the P1 course in Human Physiology. In addition, a more specific and detailed course is devoted to Oral and Facial Physiology.

2. Primary Aims

- To provide students with a concise and complete summary of human physiology
- To provide students with a thorough knowledge of the essential elements of normal oral and facial function.

3. Main Objectives

All graduates are expected to have an understanding of the following, based on a knowledge of the physiology :

- Human physiology (complementary to the P1 course)
    - Physiology of nerve and muscle cells
    - Anatomy and functions of the nervous system
    - Endocrinology
    - Gastrointestinal function
    - Renal function
- Physiology of occlusion
    - Kinematics of the mandible
    - Tooth movemants and wear
- Neural basis of oral and facial function
    - Somaesthesia and pain
    - Taste
    - Motility and mastication
    - Swallowing
    - Salivary glands

4. Hours in the curriculum

Lectures and tutorials are organised during the first semester of P2 over the following time scale :

- Human physiology 20 hours
- Physiology of acclusion 10 hours
- Neural basis of oral and facial function 30 hours

5. Methods of Learning/Teaching

A textbook produced by the department and a precise schedule of teaching sessions are given to students at the start of the term. Physiological concepts are presented in a serie of lectures, in which aspects of general and comparative physiology are presented when necessary, as well as relevant anatomic considerations. Examples of clinical medecine are given when pertinent for the illustration of physiological points. At any time, questions about the lecture or related to the textbook are answered or opened to discussion. Further discussions of particular subjects and information not considered in detail in the textbook may be opened during the tutorials (2 hours every 10 hours), during which a series of exercises related to the previous lectures are given and answered collectively.

Although no practicals are designed for the Physiology course specifically, practicals related to the analysis of occlusion (10 hours) are organised within the Module " Initial Practical Training ".

6. Assessment Methods

Neural basis of oral and facial function is assessed by a series of short answer questions and problems one week after each exercise session. They contribute to 50% of the total marks. A final examination is held at the end of the first semester.

Human physiology and physiology of occlusion are assessed by a final one hour written dissertation at the end of the first semester.

7. Strengths

As active research scientists in the laboratory of Oro-facial Physiology, members of the staff are keen to sensitize students to fundamental research in oral and facial function. However, their background in clinical dentistry and medecine makes them aware of the relevance of basic findings in dentistry and medecine, and such correlations are emphasised through the course.

The teaching of the physiology of occlusion and the neural basis of oral and facial function are an excellent platform on which to build understanding of pathofunction of the stomatognathic system and therapeutics.

8. Weaknesses

There is a need to develop interactive computer programmes including self-assessment problems to help students to recognize the areas in which their knowledge is deficient.

9. Innovations and Best Practices

The achievement of integration of all aspects of stomatognathic physiology, the emphasis placed on its role in clinical practice, and the sensitisation of students to fundamental research in oro-facial physiology.

10. Plans for future Changes

Evaluation and close monitoring of the content, and student reaction to the course will enable modifications to be made as necessary.

An introduction to speech mechanisms will be included in the program next year.

20.7 Biophysics

Pr Paul AVAN

Pr Alain WODA, e-mail : Alain.Woda@u-clermont1.fr

Dr Radhouane DALLEL, e-mail : Radhouane.Dallel@u-clermont1.fr

1. Introduction

The biophysics course takes place during the second year (P2) in a module called " Biology Module 1 ". It is taught at the same time as General and Oral Physiology.

2. Primary Aims

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

3. Main Objectives

The main objectives of the course are to learn about :

- ionizing radiations
- radiobiology, measure of radiations and radioprotection
- ultrasonics
- electricity ; direct and alternating currents.

4. Hours in the Curriculum

Total contact hours are 20 hours

5. Methods of Learning/Teaching

Essentially lectures

6. Assessments Methods

A two hours written exam with :

- Short-answer questions
- Structured questions

7. Strengths

The permanent effort made to link this basic science with the dental practice

8. Weaknesses

- Due to a weak staff in our school, the course is actually managed by a Professor in Medecine.
- The method of teaching/learning is also a weakness of this course. Implementation of problem based learning may be the best method to enable students to understand the biophysical aspects of the practice of dentistry

9. Innovations and Best Practices

This biophysics course is specifically designed for the dental curriculum which means that only the elements of biophysics deemed relevant by our faculty in association with Pr Avan are included.

10. Plans for Future Changes

20.8 Genetics

1. Introduction

This course takes place during the first year of the curriculum P1 (common to both medical and dental schools) and is taught by professors of the Faculty of Medecine.

Section 6 : Pre-Clinical Sciences

6.1 Anatomy

Dr Thierry ORLIAGUET, email : Thierry.Orliaguet@u-clermont1.fr
Dr Sylvain SANTONI

1. Introduction

Craniofacial anatomy and dental anatomy are teached in the same module which starts in the first term of year P2.

2. Primary Aims

The primary aims of the module are the following :

- Knowledge of craniofacial anatomy and its clinical applications (in anaesthesia, surgery etc.).
- Knowledge of dental anatomy and its clinical applications (in endodontics, restorative dentistry, prosthetics, the study of occlusion etc.).

3. Main Objectives

-Knowledge of the basic anatomical structures.
-Knowledge of the clinical anatomical environment (teeth, oral cavity, face etc.).
-Knowledge of the anatomical consequences of clinical intervention.
-Understanding of clinical techniques (anaesthesia, incisions, reconstitutions etc.).

4. Hours in the Curriculum

Total contact hours are 130 hours : 35 hrs of lectures, 35 hrs of tutorials, 60 hrs of practicals

5. Methods of Learning/Teaching

These are :

- Photocopies of all the lectures and their diagrams are distributed at the beginning of the module.
- A reference list is provided and each student has an individual research project (further insight into a particular topic which is then presented to the rest of the group as a tutorial.).
- Tutorials using CD ROM and Internet.

- Lectures with slide support (diagrams, dissections etc.).
- Mandatory student participation (presentations and discussions).
- Systematic presentation of clinical applications (anaesthesia, surgery, TMJ etc.).

6. Assessment Methods

- Continuous written evaluation in craniofacial anatomy (a test per chapter on average –50% of overall mark) and a final written exam (50% of mark).
- Final written exam in dental anatomy.
- Continuous evaluation during dental anatomy practicals and a final practical exam (each 50% of overall mark).

7. Strengths

- The clinical application and the fundamental theoretical knowledge are demonstrated simultaneously.
- The student is introduced to a literature search and to individual presentations (to develop an individual working method).
- Association of theoretical and research work with practical work (dental anatomy practicals with tooth sculpture, wax work etc.).

8. Weaknesses

- There is no dissection.
- The module takes place too far before the start of clinical activity. (At the start of year P2 the students have no knowledge of dental pathology and its treatment. They therefore have difficulty grasping the clinical and practical importance of the theoretical knowledge acquired.)

9. Innovations and Best Practices

- The students are systematically involved in the teaching: they are actors and not spectators.
- The students undertake their own literature search.
- There is continuous assessment.

10. Plans for Future Changes

- To start dissection tutorials.

- To recall the anatomical aspects in each of the other university and clinical modules as relevant (decentralisation).
- Reinforce teaching by tutorials using CD ROM and the Internet.

Section 7 : Para-Clinical Sciences

7.1 Pharmacology

Pr Jeanine LAVARENNE

Pr Alain ESCHALIER

1. Introduction

Pharmacology course for dental students is given in the third year (D1) in a module entitled "Pathology and Medical Therapeutics, Module 4". This subject is taught at the same time as anaesthesiology, tooth extraction and simple oral surgery.

Students learn the general principals of drug action and drug disposition in the body and also study the effects of disease, pregnancy and extremes of age on drug handling. They gain a knowledge of adverse drug reactions and drug interactions.

2. Primary Aims

To provide dental students with :

- an understanding of principles of drug absorption, distribution, metabolism, excretion, mode of action and adverse drug reactions
- a knowledge of drugs used in dentistry, the relevance of a concurrent medical condition and its therapy, the use of drugs in pregnancy, lactation and extremes of age.

1. Main Objectives

Students should be able to :

- describe the mechanisms of drug absorption, distribution, metabolism and excretion
- describe the principles of drug action and drug acting on the autonomic system
- name the groups of drugs used in dentistry, their modes of action, metabolism, adverse reactions, precautions and interactions with other drugs .
- name the drugs acting on blood coagulation and their interactions with the practice of dentistry

1. Hours in the Curriculum

Total contact hours are 35 hours

2. Methods of Learning/Teaching

Essentially lectures

3. Assessment Methods

A one hour written exam with :

- short questions
- structured questions

1. Strengths

The permanent effort made to link this basic science with the dental practice

2. Weaknesses

- Due to a weak staff in our school, the course is actually managed by two Professors in Medecine.
- The method of teaching/learning is also a weakness of this course. Implementation of problem based learning may be the best method to enable students to understand the pharmacological aspects of the practice of dentistry

1. Innovations and Best Practices

This pharmacology course is specifically designed for the dental curriculum which means that only the elements of pharmacology deemed relevant by our faculty in association with the Pharmacology Department of the Faculty of Medecine are included.

2. Plans for Future Changes

7.2 General Microbiology

Dr Valérie ROGER, e-mail : roger@clermont.inra.fr

1. Introduction

This course takes place in the fourth module of Biology in the second Year (P2). The course is made up of the following subjects : general bacteriology, virology and immunology.

2. Primary Aims

- To encourage a thorough understanding of the general biology of bacteria, viruses and fungi. Particular attention is paid to how these organisms interact with the human body and how they cause diseases
- To facilitate an understanding of the many facets of the human immune response and the mechanisms and treatments used to prevent and/or cure infectious disease.

1. Main Objectives

- To describe the morphology, structure and metabolism of bacterial cells, including how they are grown and recognised in the laboratory.
- To decribe in general terms how bacteria cause diseases
- To describe the morphology and pathogenesis of the main bacterial genera that a dental practitioner may encounter during his clinical practice
- To describe the morphology and pathogenesis of the main viruses that a dental practitioner may encounter during his clinical practice
- To describe how the humoral and cell-mediated immune systems recognise and eradicate microorganisms
- To describe the development and mode of action of vaccines
- To describe the development of mode of action of antibacterial, antiviral and anti-fungal agents.

1. Hours in the Curriculum

Total contact hours are 33 hours

2. Methods of Learning/Teaching

Essentially lectures but during 4 hours of practicals, each student learn how to observe a bacteria with a light microscope (Gram staining, morphology, mode of association)

3. Assessment Methods

Bacteriology : A 1 hour written exam with sentences to complete

Virology and Immunology : A half an hour written exam each with sentences to complete

4. Strengths

The implementation of practicals in Bacteriology

5. Weaknesses

The method of teaching/learning has to be improved (see plans for future changes)

6. Innovations and Best Practices

7. Plans for Future Changes

To implement Problem Based Learning

7.3 Healthy Buccal Ecosystem

Dr Valérie ROGER, e-mail : roger@clermont.inra.fr

Dr Bernard COUDERT

Dr Hervé BESSE

1. Introduction

The oral cavity is home to a large number of very diverse microorganisms. For the most part these are harmless in nature. However, under certain conditions, some of these microorganisms can cause diseases. The two most important diseases in the oral cavity are dental decay and periodontal diseases. They are the most common infectious diseases in the world. In addition, since the oral cavity is directly linked to the respiratory and digestive tracts, it is also the portal of entry for a wide array of disease-causing pathogenic microbes.

Students are introduced to the microbial world at the beginning of P2 (as indicated earlier), then oral microbiology is developed further as well as dental histology and embryology and oral biochemistry in a module called " The Healthy Buccal Ecosystem ". This is to demonstrate to students that they don't have to consider these subjects as separate ones but as a group of topics working together.

2. Primary Aims

- To identify the different parts of the buccal ecosystem (biotic and abiotic)
- To understand the good working of the buccal ecosystem

1. Main Objectives

- To describe the microbial floral of the healthy buccal ecosystem
- To explain how forms the dental plaque (bacterial adhesion)
- To describe the roles of saliva and gingival fluid in the ecosystem (reciprocal actions between saliva and bacteria)
- To describe the tooth development
- To describe the structures of tooth and periodontal tissues (enamel, dentine, pulp, cementum, periodontal ligament, alveolar bone)

1. Hours in the Curriculum

Total contact hours are 87 hours (40 hours of lectures and 37 hours of tutorials)

2. Methods of Learning/Teaching

- Lectures with handouts and slides
- Tutorials : interpretation of histological slides

1. Assessment Methods

A 2 hours written exam with multiple choice questions.

A one hour practical exam : the student has to draw a histological slide seen during the course and list all the structures he/she is able to recognize on this slide.

2. Strengths

- The huge number of slides seen during the course
- The ability to discuss aspects of microbiology and dental histology is practised during tutorials

1. Weaknesses

Lack of staff to implement problem based learning

2. Innovations and Best Practices

Handouts are given to students one week before the lecture. The student can prepare his questions and this allows an interactive discussion during the tutorials.

3. Plans for Future Changes

To implement problem based learning

7.4 General Pathology

Dr Thierry ORLIAGUET, email : Thierry.Orliaguet@u-clermont1.fr

1. Introduction

This module consists of general pathology but anatomy, histology and embryology are also taught. It runs over the first and second terms of year P2.

2. Primary Aims

To bring together teaching of some fundamental notions and their logical suite within the same module:

- Embryology and craniofacial development.
- Normal histology of the digestive system.
- Basic principles of the pathological development (the cell and its pathology, inflammation, wound healing, principles of pathological tumours).

1. Main Objectives

- Histological knowledge of normal oral tissue.
- Knowledge and understanding of embryonic development and craniofacial development (links with fœtal pathology).
- Knowledge of cellular structure and its pathology : understanding of the mechanisms of tumour pathology.

1. Hours in the Curriculum

Total contact hours are 55 hours (50 hrs of lectures, 5 hrs of practicals).

2. Methods of Learning/Teaching

Lectures with slide support (diagrams, dissections etc.).

3. Assessment Methods

- Final written exam in all three disciplines.
- Final exam in a tutorial in pathology and anatomy.

4. Strengths

- The clinical application of the fundamental theoretical knowledge is demonstrated simultaneously (normal and pathological development are presented consecutively, normal cells and tissues are followed directly by the pathological mechanisms of alteration of these elements).
- Association of normal embryonic development, cellular and tissue structure followed by the pathological development and alteration of cells and tissues.

1. Weaknesses

- Not enough tutorials or practicals.
- The module takes place too far before the start of clinical activity. (At the start of year P2 the students have no knowledge of dental pathology and its treatment. The therefore have difficulty grasping the clinical and practical importance of the theoretical knowledge acquired.)

1. Innovations and Best Practices

The grouping of these three disciplines within the same module.

2. Plans for Future Changes

- To introduce dissection tutorials.
- To recall the anatomical, pathological and histological aspects in each of the other university and clinical modules as relevant.

Section 8 : Human Diseases

20.6 Human diseases

Pr Pierre PHILIPPE

Pr Martine BAUDET-POMMEL

1. Introduction

Human diseases are taught during the second (P2) year in a module named " Pathology and Medical Therapeutics Module 2".

2. Primary Aims

The primary aims are :

- To develop in the students an understanding of human diseases (embracing general medecine, surgery and pathology as well as pharmacology and microbiology) that is required for a dental practitioner to safely care for patients.
- To enable the student to recognise the signs and symptoms of systemic diseases and to implement prophylactic measures.

3. Main Objectives

At the end of the course, students should know about :

- gastroenterology, liver, biliary ducts and pancreas
- endocarditis, cardiac insufficiency, coronary pathology
- pneumology
- pathologies of the thyroid gland
- diabetes mellitus
- dermatology
- nephrology
- oedemas
- mental depression
- weight losses
- gynecology
- bone pathologies

- blood pathologies
- pathologies of the child
- cancers
- fever

4. Hours in the Curriculum

Total contact hours are 32 hours

5. Methods of Learning/Teaching

Essentially lectures

6. Assessment Methods

A two hours written exam with :

- multiple choice questions
- short questions
- structured questions

7. Strengths

- This course is jointly organized by a staff of teachers who are all medically qualified. All teachers are specialists of the subject they teach.
- One of the most important modifications of the new program is the reinforcement of teaching of medical basic sciences.

8. Weaknesses

Numerous students still think that this course is useless because they have not at that time clinical duties. This module needs perhaps to be link with the clinical practice.

9. Innovations and Best Practices

10. Plans for Future Changes

To implement Problem Based Learning

20.7Anaesthesiology and Resuscitation

Dr Christian DUALE, e-mail : Christian.Duale@u-clermont1.fr

1. Introduction

Anaesthesiology and resuscitation are taught during the third Year (D1) in a module entitled " Pathology and Medical Therapeutics, Module 4 ". This subject is taught at the same time as pharmacology, tooth extraction and simple oral surgery.

2. Primary Aims

The course aims :

- to engender an awareness of the full range of methods of modification of human behaviour
- to foster an understanding of the inherent risks associated with the commonly used forms of sedation and anaesthesia and the distinction between conscious sedation and general anaesthesia
- to develop the clinical skills necessary to first aid and resuscitation

1. Main Objectives

At the end of the course, the student should know about :

- feeling faint (vagal malaise, anaphylaxis, hypoglycemia, poisoning with drugs used for local anaesthesia, heart failure)
- medical emergencies
- Drugs used for local anaesthesia
- General anaesthesia in dental care
- Drugs used for medical emergencies. Who to call

1. Hours in the Curriculum

Total contact hours are 20 hours (lectures : 15h, practicals : 5h)

2. Methods of Learning/Teaching

Methods of teaching are the following :

- lectures
- during the practicals, students learn how to make a resuscitation after a heart failure on a manikin

1. **Assessment Methods**

- A one hour written exam with short questions
- A practical exam : on a manikin, the student shows how to make a resuscitation after a heart failure

1. **Strengths**

- The practicals take place at the Department of Medical Emergencies and Resuscitation

1. **Weaknesses**

The need to repeat the practical exercises throughout the curriculum.

2. **Innovations and Best Practices**

3. **Plans for Future Changes**

Section 9 : Orthodontics and Child Dental Health

9.1 Orthodontics

Dr Pierre BOURDIOL, e-mail : Pierre.Bourdiol@u-clermont1.fr

20 Introduction

Part of the Dental Curriculum is devoted to the learning of orthodontic basics. To fulfil this purpose three main courses are scheduled.

The first one (D1) is assigned to the fundamental studies of cranio-facial anatomy, embryology and growth development of the head as well as the study of dental oclusion. Students are also trained to realise, document and examine their own orthodontic records.

In the second one (D2),

a) students are to learn the basic diagnosis of main cranio-facial abnormalities and malocclusions relevant to the field of Orthodontics
b) students are introduced to treatment approach of such problems
c) students learn how to realise patient orthodontic records

d) students observe or attend to the elaboration of treatment goals and planning and are invited to make commentary remarks

In the third one (D3), orthodontic therapy is taught theoretically ; whereas students are taught clinically the different steps of patient treatment survey and they also are to be of assistance to an orthodontic practitioner during his arm-chair practice at the Dental School.

21 Primary Aims

As orthodontics is a specialised practice, the primary teaching aims are pointing to

- the ability to diagnose the main cranio-facial malocclusions and abnormalities
- epidemiology and by the way to the appropriate preventive and interceptive treatments

3. Main Objectives

a) Clinically investigating malocclusion diseases, i.e. advising the concerned patients and if necessaryaddressing them to Specialists
b) Learning cranio-facial mechanisms in view of etio-pathogenic goals
c) Positive, etio-pathogenic and evolving diagnosis of main malocclusions and abnormalities encountered in orthodontic field
d) Therapeutic initiation

22 Hours in the Curriculum

D1 : 64 hours

D2 : 38 hours

D3 : 36 hours

23 Methods of Learning/Teaching

a) Lectures
b) Realisation of patient record files : Dental arch impressions, casting of impressions, cast trimming and analysis of them ; Elaboration of cephalometric and clinical diagnosis and synthesis
c) Clinical teaching : survey of treatment phases and eventually participation to treatment during interceptive therapies

6. Assessment Methods

d) Final exam evaluated on a 20-point-basis questioning on the main theoretical courses

e) Along the year evaluations of students accomplishments and synthetic final examination

f) Control of student assiduity and evaluation of motivation

24 Strengths

Progressive teaching aiming at acquisition of fundamental and therapeutic knowledge of the main cranio-facial malocclusions and diseases in order to gain the necessary experience to enter the professional activity

25 Weaknesses

Student passive attendance to lectures

Student insufficient participation to Clinical Orthodontics especially in case of preventive and interceptive treatments

26 Innovations and Best Practices

Each student studying his own orthodontic record file is a source of personal experience enrichment and motivation

10. Plans for future changes

Improvement of student active participation to D3 clinics

Introduction of an optional clinical participation of T1 students to patient complex case treatment combining Orthodontics, Prosthetics, Prosthodontics, Implantology

9.2 Child Dental Health

Pr Pierre-Louis DELOUP

Dr Hervé BESSE

27 Introduction

Undergraduate students are introduced to paediatric dentistry in the 4th year (D2). They attend the Child Dental Clinic in the 5th year (D3).

28 Primary Aims

Primary aims during D2 are to enable treatment of simple dental pathology in the child, to teach the semiology of dental paediatrics and to teach the fundamental techniques of clinical practice.

By the end of his/her studies (D3, T1), the student should be able to undertake a complex paedodontic case, in the context of general dental practice. The student should be able to appraise the differences between adults and children and to understand the risks associated with the immaturity of a child, the rules for prescribing and the difficulties in undertaking treatment.

29 Main Objectives

In D2, main objectives are :

- Clinical examination.
- Dental radiology for children.
- Diagnosis.
- Treatment planning.
- Treatment of the primary dentition and of the immature permanent dentition.
- Anaesthesia for children.
- Cavity preparation.
- Dental trauma and its treatment.
- Extraction of primary and permanent teeth.
- Preformed crowns for primary teeth.
- Space maintainers.
- Abnormalities of eruption.

In D3, main objectives are :

- Paediatric pharmacology.
- Paedodontic prosthetics.
- Normocclusion.
- Clinical paedodontics.
- Minor oral surgery in children.
- Ergonomy in dental paediatrics.

30 Hours in the Curriculum

D2 : 30 hours of lectures, 16 hours of tutorials and practicals.

D3 : 16 hours of lectures and 88 hours of clinic (2 hours sessions).

31 Methods of Learning/Teaching

These are lectures and practical work on phantom heads in D2 and lectures and clinical supervision in D3.

32 Assessment Methods

Final written examination and a grade given for tutorials in D2 and clinical work in D3. A pass is given if the average is reached in both marks.

33 Strengths

The practical sessions in D2 and the clinical sessions in D3 follow in sequence after the lectures.

34 Weaknesses

No clinical work and lack of teaching staff in D2.

Close clinical supervision.

Cooperation with the department of orthodontics.

35 Innovations and Best Practices

Use of video is planned and simulation of clinical conditions in the practical work

The continuity of theoretical teaching and clinical work.

The student is given more responsibility in D3.

36 Plans for Future Changes

Better supervision.

More patients.

Improved equipment.

Closer collaboration with orthodontics.

Section 10 : Public Dental Health and Prevention

10.1 Health Economics

Dr Stéphanie TUBERT, e-mail : Stephanie.Tubert@u-clermont1.fr

37 Introduction

This course takes place during D3 in the module entitled " Practice Management and Community Health, Module 2".

38 Primary Aims

The purpose is to initiate students into health economics

39 Main Objectives

The students must be able to describe or define :

1 – the word " health economics "

2 – the French health care system (in European context)

3 – indicators used to measure the consumption of health services

4 – the French Social Security System

5 – the different actors of the French health system (hospital, government)

40 Hours in the Curriculum

Time commitment to this programme is 15 hours

41 Methods of Learning/Teaching

The theoretical aspects are taught during lectures. They are group work sessions with videos or economic data to be commented by the students.

42 Assessment Methods

Theoretical knowledge is assessed during a final exam with multiple choice questions

43 Strengths

In this module, we try to situate the French health care system in the perspective of different systems existing in Europe.

44 Weaknesses

Nevertheless, theoretical aspects are very important. It would probably be interesting to reduce the number of lectures and to develop other pedagogical methods.

45 Innovations and Best Practices

Each year, students can assess contents and teaching methods.

NB : A course of " statistics " exists during the second year in the module entitled " Initial Practical Training, Module 1 ". There is no module of public health yet.

46 Plans for Future Changes

46.6 Epidemiology

Dr Stéphanie TUBERT, e-mail : Stephanie.Tubert@u-clermont1.fr

47 Introduction

This course takes place during D3 in a module entitled " Practice Management and Community Health, Module 2".

48 Primary Aims

This module is aimed at introducing the students to the way dental epidemiological surveys are conducted.

49 Main Objectives

While reading a publication, students must be able to recognize the features of an epidemiological survey

1 - Purpose of the survey (hypothesis)

2 – Category of survey (descriptive, etiological, evaluative…)

3 – Population, sampling…

4 – Variables, indicators used to measure health or risk factors

5 – Statistical method

6 – Main results and conclusions

7 – Quality and possibility of making use of the survey

8 - Bibliography

50 Hours in the Curriculum

Time commitment to this programme is 25 hours. Statistics are taught in second year

51 Methods of Learning/Teaching

Students work in groups on international epidemiological dental publications.

Each group has to sum up orally and in a written report the English publications they have worked on.

These ones, always taken from Science Citation Index, are about cariology.

52 Assessment Methods

Students are assessed in the following way : oral presentation plus final exam with multiple choice questions.

53 Strengths

In setting up the module of epidemiology, the Faculty of Clermont-Ferrand is breaking new ground along with very few other French institutions. Articles deal with cariology and prevention (already learnt in third year)

54 Weaknesses

Because of its recent creation, assessment of the weak points of the module is difficult. First, the time allotted to this module is probably too short and the students may have forgotten the statistics taught in second year (more time to revise the notions would be necessary).

Then, comprehension of the articles depends on each student's level in English.

55 Innovations and Best Practices

Each year, students can assess contents and teaching methods

56 Plans for Future Changes

Designing new projects is too early. Analysing results of the first assessment is necessary.

10.3 Prevention

Dr Stéphanie TUBERT, e-mail : Stephanie.Tubert@u-clermont1.fr

1. Introduction

This course takes place in a module teached in D1 and called " Buccal Ecosystem : Imbalance and Prevention ".

2. Primary Aims

This course is aimed at training students in prevention of dental caries and periodontal diseases.

3. Main Objectives

Students must be able to :

- describe the etio-pathogeny of caries and periodontal diseases
- provide the right dose of fluorine (topical or systemic)
- manage an individual program of dental health, education in oral hygiene or nutrition
- participate in a community dental program
- achieve a clinical examination (cariology, oral hygiene)
- take and read bitewing radiographs
- determine caries-risk (by using salivary and microbiological tests if necessary)
- achieve a dental sealing
- use dental sealants
- plan a dental recall

4. Hours in the Curriculum

75 hours including 25 hours of clinical training

5. Methods of Learning/Teaching

A great number of teachers is working in this module. Thus, various teaching methods are used depending on the subject.

6. Assessment Methods

The students are assessed according to several types of examination. A ninety minutes MCQ (Multiple Choice Questions) is used, as a final examination, to assess the theoretical knowledge whereas a continuous assessment is used to check the technical skills (example : posture during the practice of scaling, quality of bitewing radiographs…). At the end of the clinical training

period, the students have to write a report on a clinical case in cariology. They must expose the results of the clinical and radiological examination, appreciate the patient's risk of developing caries, determine the therapies and plan recall visits.

7. Strengths

- In the French context, the preventive dentistry module of Clermont-Ferrand is very innovative. This module was created only three years ago and, currently, a small number of French dental schools propose that kind of training. Moreover, the module is taught in collaboration with other departments such as those of restorative dentistry, periodontology, microbiology…
- In this module, teachers always try to update their knowledge.

8. Weaknesses

A lot of problems arise from the organization of the module :

- The number of instructors involved in the module is limited. Moreover, they don't have enough time for organization and quality improvement.
- Most of them have not received any pedagogical training, hence it reduces the efficiency of the work carried out during practice sessions.
- The clinical training period lasts only fifteen days. Students cannot appreciate how difficult it is to ensure the follow up of a patient in preventive dentistry.
- 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.

9. Innovations and Best Practices

Each year, the students have the opportunity to assess the contant of the module as well as its organization.

10. Plans for Future Changes

We are organizing the systematic recall of those of the patients with the highest risk of developing caries in order to help students to implement prevention techniques and habits.

Section 11 : Restorative Dentistry

56.6 Conservative Dentistry and Endodonty

a) Simple Conservative Dentistry (1st Part)

Pr Léopold BOURDEAU

1. Introduction

The module is undertaken in the second term of year D1. An introduction to dental instruments and handpieces takes place in year P2 (second year) in the module entitled "Initial Practical Training, Module 1".

2. Primary aims

To introduce the student to the use of dental drills and instruments and to the fee system in restorative dentistry and endodontics.

3. General objectives

Year P2 :

- To learn to use slow, straight and fast hand pieces and the appropriate burs.
- To learn the importance of posture and rest points.
- Maintenance of the equipment.
- To emphasise the importance of the above in clinical practice.

Year D1 :

- Use of a dental hand piece under direct vision, ensuring stability and safety.
- Undertake standardised dental cavities in restorative materials and mineralised tissues.
- Describe the instruments required for cavity access and curettage.
- Choose and be able to use the correct drills and burs.
- Differentiate between a carious cavity and a prepared cavity.
- Name the different axes of a cavity.
- Describe the instruments required for the first stages of endodontic treatment.
- Describe the coronal and radicular anatomy of the permanent teeth.
- Establish a working length from a radiograph.
- Undertake an endodontic access cavity for various different teeth.

4. Hours in the curriculum

P2 : 9 hours of practicals

D1 : 52 hours (Lectures 16h, Practicals 36h)

5. Methods of Learning/Teaching

Year P2 :

- Description of the instruments by use of catalogues, slides and instruments.
- Instrument use:
    - ● Demonstration
    - ● Use by the student of the various instruments for non dental preparations in resin. The resin plaques are specially designed for teaching of the use of dental instruments with a range of preparations, shapes and surfaces –straight, curved, right angles, obtuse and acute angles, rounded corners etc.

Year D1 :

- Lectures.
- Phantom head work.

6. Assessments Methods

- Presence mandatory.
- Continuous assessment of practical skills.
- Essay paper.

7. Strengths

- Introduction to dental instrumentation at the beginning of the curriculum.
- Progressive teaching which may initially appear unattractive to the students but which later motivates them well by providing a first contact with actual tooth tissue and by a clinical approach.

8. Weaknesses

- In P2, there is a lack of time and teaching staff (the module is taught by a single lecturer, helped periodically by a second)
- The standard practicals room is poorly ventilated.
- Individual teaching would be prefered in D1.

9. Innovations and Best Practices

- Application of a synthetic caries model.

- Development of a numerical synopsis.

10. Plans for future Changes

- Situate the formal teaching better by developing the practical work further.
- Improvement of the video equipment in the standard practicals room.

a) Simple Conservative Dentistry (2nd Part)

Dr Martine HENNEQUIN, e-mail : Martine.Hennequin@u-clermont1.fr

1. Introduction

The module is undertaken in year D2 over 2 terms. It takes place in the module entitled " Pathology and Treatment of the Tooth, Module 3".

2. Primary Aims

Diagnosis and treatment of pulpal pathology. Following the module the student should be able to independently diagnose and manage patients presenting at the dental hospital with simple dental pathology of pulpal origin.

57 Main Objectives

First term (pre-clinical):

- Knowledge of the pulpal and radicular anatomy of the permanent teeth.
- Recognise the principle aetiologies of pulpal pathology.
- Recognise the clinical signs of pulpal pathology.
- Describe the clinical effect of the physical and chemical properties of the non cast dental materials.
- Knowledge of the indications and clinical methods for all possible treatments of reversible pulpal pathology as undertaken in the dental hospital.
- Knowledge of the indications and clinical methods for all possible treatments of irreversible pulpal pathology as undertaken in the dental hospital.

Second term (clinical):

- Diagnose pulpal and combined pulpal and peri-radicular pathology.
- Undertake simple coronal restorations, respecting the rules of the dental hospital.
- Undertake simple endodontic treatment, respecting the rules of the dental hospital.

58 Hours in the Curriculum

267 hours (30h of lectures, 36h of tutorials, 105h of practicals, 96h of clinical work)

59 Methods of Learning/Teaching

- Lectures and tutorials.
- Phantom head work.
- Clinical work in groups of 4 students to 1 demonstrator.

60 Assessment Methods

- Continuous assessment of theoretical knowledge.
- Continuous assessment of practical skills.
- Essay paper.
- Three simple "validated" treatments on clinic. (A treatment may be validated if the demonstrator has not had to intervene, if the hygiene rules of the dental school have been respected, and if the diagnosis and treatment plan for that particular tooth can be justified.)

61 Strengths

- Simultaneous theoretical teaching and practical acquisition.
- Coordination of the preclinical part of the course with the demands of the clinical part.

62 Weaknesses

It is difficult to select enough patients for this student population that are in need of suitably "simple" treatment.

63 Innovations and Best Practices

- Each phantom head session is accompanied by a written synopsis.
- A reference manual is given to each student for restorative dentistry and for endodontics.
- A bank of multiple choice questions has been established for continuous assessment
- An evaluation grill has been designed and validated with predetermined criteria for teaching and autoevaluation purposes for the preclinical part of the course.
- An interactive game has been developed for the diagnosis of the different pulpal pathologies.

64 Plans for Future Changes

Design and validation of an evaluation grid with predetermined criteria for teaching and autoevaluation for the clinical part of the course.

c) Complex Conservative Dentistry

Dr Dominique ROUX, e-mail : Dominique.Roux@u-clermont1.fr

65 Introduction

The aims of this course are the diagnosis and treatment of pulpal pathology – complex cases.This module is undertaken in year D3.

66 Primary Aims

Following the module the student should be able to independently diagnose and manage patients presenting at the dental school with complex dental pathology of pulpal origin.

67 Main Objectives

- Knowledge of the indications for re-root treatment.
- Evaluation of the difficulty of a particular endodontic case.
- Ability to undertake re-root treatment on single rooted or multi rooted teeth.
- Placement of a sealed rubber dam for the treatment of a single tooth or for several teeth in the arch.
- Describe the principles behind non invasive dentistry.
- Management of a patient with gross caries.
- Management of an adolescent at high caries risk, using non invasive techniques.
- Recognise the difficulties associated with the management of patients with special needs.
- Be able to refer a medically compromised patient.
- Prescription of analgesics for endodontic pain.
- Reconstitution of a root treated tooth.
- Knowledge of the mechanically assisted techniques of canal preparation.
- Knowledge of the different techniques for root filling with gutta percha.

68 Hours in the Curriculum

162 hours (30h of lectures, 4h of practicals, 128h of clinical work)

69 Methods of Learning/Teaching

- Lectures and tutorials.
- Phantom head work.
- Clinical work supervised by a demonstrator.

70 Assessment Methods

- Continuous assessment of clinical skills.
- Essay paper.
- 12 “validated” treatments on clinic. (A treatment may be validated if the demonstrator has not had to intervene, if the hygiene rules of the dental school have been respected, and if the diagnosis and treatment plan for that particular tooth can be justified.)

71 Strengths

The large number of hours spent on clinic.

72 Weaknesses

There are differences between demonstrators in their clinical methods.

73 Innovations and Best Practices

The mechanical preparation of root canals has been recently introduced.

74 Plans for Future Changes

Design and validation of an evaluation grid with predetermined criteria for teaching and autoevaluation for the clinical part of the course.

Creation of a practical course to study leakage around coronal restorations.

74.6 Prosthodontics (Fixed and Removable Prosthodontics, Edentulous State)

a) Simple Prosthodontics (Fixed and Removable Prosthodontics)

Dr Didier Compagnon

20 Introduction

The module enables the student to learn:

- The theoretical knowledge and practical skills necessary to analyse a simple clinical case and to undertake treatment requiring several different types of simple prosthesis (fixed or removable)
- The theoretical knowledge and practical skills necessary to undertake simple prosthetic treatments.
- The required clinical procedures and the necessary laboratory skills to change one lost mandibular tooth by a fixed prosthesis.

Teaching includes theoretical courses (lectures and tutorials), practical training and clinical experience (treatment of patients).

The module is undertaken in year D2.

21 Primary Aims

Following this module the student should have the theoretical knowledge and practical skills necessary to diagnose and treat simple prosthetic cases.

22 Main Objectives

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

- identify the treatment need of the patient with a simple case prosthesis.
- spell the treatment objectives
- undertake the case work up (organisation of the treatment plan, order of priority for each act or discipline)
- manage the relationship between the clinic and the laboratory
- undertake preparation of the mouth and teeth for dentures, crowns or bridges.
- manage the placement of the prostheses and any patient complaints.

23 Hours in the Curriculum

192 hours (50 hours of lectures, 110 hours of practicals and 32 hours of clinical work).

24 Methods of Learning/Teaching

Several lecturers belonging to different departments (Biomaterials, Fixed Prosthodontics, Removable Prosthodontics, Periodontology) work simultaneously for lectures.

Practicals are introduced by defining the objectives and by going through the stages one by one. There are televised demonstrations and/or computer assisted presentations. On practicals, there are one dental practitioner and one dental technician.

On clinic there is one demonstrator to four students.

25 Assessment Methods

Final written theoretical exam.

Clinical assessment by pre determined evaluation grids.

26 Strengths

On clinic, the student continues the approach taught during the practicals.

The student undertakes some laboratory work, which leads to a greater understanding of the difficulties encountered by the technicians and enables a real dialogue with them.

27 Weaknesses

- Lack of staff especially during the practicals
- Lack of continuing education among the practitioners looking after the students work
- Lack of dicussion with the teachers of other specialities.

28 Innovations and Best Practices

Practicals in the dental laboratory.

A global approach to treatment planning : students support not only the clinical work but also the administrative and the laboratory ones.

29 Plans for Future Changes

To develop pluridisciplinary staff of teachers.

To use new methods of assessment to evaluate both theoretical and practical knowledges.

To develop a CD ROM for self teaching purposes.

b) Complex Prosthodontics (Fixed and Removable Prosthodontics)

Dr Frédéric Morin, e-mail : Frederic.Morin@u-clermont1.fr

20 Introduction

The module enables the student to learn:

- The theoretical knowledge and practical skills necessary to analyse a complex clinical case and to undertake treatment requiring several different types of prosthesis and/or clinical disciplines.
- The theoretical knowledge and practical skills necessary to undertake specific prosthetic treatments.

Teaching includes theoretical courses (lectures and tutorials), practical training and clinical experience (treatment of patients).

The module is undertaken in year D3.

21 Primary Aims

Following this module the student should have the theoretical knowledge and practical skills necessary to diagnose and treat complex prosthetic cases within a global treatment plan.

22 Main Objectives

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

- identify the treatment need of the patient
- propose several treatment plans in relation to the patient
- undertake the case work up (organisation of the treatment plan, order of priority for each act or discipline)
- manage the relationship between the clinic and the laboratory
- undertake preparation of the mouth and teeth for dentures, crowns or bridges.
- undertake any of the different impression techniques and understand the materials used.
- use and set up an adaptable articulator (mounting of models, occlusal analysis, graphic recordings, recording of anterior guidance)
- manage the placement of the prostheses and any patient complaints.
- teach the patient to look after their prostheses and establish a follow up programme.
- understand the laboratory techniques and stages.

23 Hours in the Curriculum

40 hours of lectures over both semesters, 12 hours of tutorials, 20 hours of practicals and 128 hours of clinical work. Laboratory work should occupy an average of 2 hours a week (set ups, pouring of models etc).

24 Methods of Learning/Teaching

3 lecturers work simultaneously for each lecture with slides, videos or computer simulations.

Tutorials consist of small groups of students (7 to 8 students) who study a particular subject, which is then discussed with the whole group.

Practicals are introduced by defining the objectives and by going through the stages one by one.

There are televised demonstrations and/or computer assisted presentations.

On clinic there is one demonstrator to four students.

25 Assessment Methods

Final written theoretical exam.

Clinical assessment by pre determined evaluation grids.

26 Strengths

Case studies enable the students to understand an interdisciplinary approach.

On clinic the student continues this approach and performs treatment that conforms to the patients treatment needs rather than to a certain discipline.

The student learns more complex clinical techniques.

The student undertakes some laboratory work, which leads to a greater understanding of the difficulties encountered by the technicians (veneers and onlays).

27 Weaknesses

The wide differences between the cases undertaken by the students.

Treatment undertaken is limited by financial barriers.

Clinical time is insufficient due to the limited number of dental chairs on clinic.

28 Innovations and Best Practices

Practicals in the dental laboratory.

A global approach to treatment planning.

The use of predetermined evaluation grids to assess clinical and practical work.

The use of computer assisted presentations.

The presentations given throughout the practicals.

29 Plans for Future Changes

To develop the practicals further.

To use other methods of assessment such as MCQ's and evaluation cascades.

To develop a CD ROM for self teaching purposes.

c) Edentulous State

Dr Jacques LESCHER

Dr Jean-Luc VEYRUNE

Dr Claire LASSAUZAY, e-mail : **Claire.Lassauzay@u-clermont1.fr**

20 Introduction

The module consists of the theoretical knowledge and practical skills necessary to undertake upper and lower complete dentures in a moderately difficult case.

Teaching is split into two parts:

Preclinical teaching (lectures, tutorials and phantom head work).

Clinical teaching (provision of complete dentures on clinic).

The module takes place in year D1 (third year of the dental course) with the first semester dedicated to preclinical teaching and the second to clinical.

21 Primary Aims

Knowledge of the theoretical base and practical skills necessary to undertake upper and lower complete dentures in a moderately difficult case.

22 Main Objectives

Acquisition of the knowledge and skills required to :

- Undertake a clinical examination: assessment of the clinical condition in order to plan any preprosthetic treatment (mucosal health, neuromuscular and joint health, preprosthetic surgery), the prosthetic treatment plan and difficulty of the case (impression materials and techniques, occlusal difficulties) and the eventual prognosis.

- Undertake the different impression techniques and learn to manipulate the different impression materials.

- Be able to record jaw relations using a facebow and semi-adjustable articulator, be able to establish the vertical dimension and record the centric jaw relationship.

- Be able to choose the prosthetic teeth according to aesthetic and functional principles and be able to mount the teeth in order to obtain a balanced occlusion (method according to Gysi).

- Polymerisation of the resin (knowledge of the physical and chemical characteristics) and finishing (polishing).

- Insertion of the prostheses (recognition of any deformations, surface defects), occlusal adjustment (primary and secondary) and the management of any patient complaints.

23 Hours in the Curriculum

In the first semester the students spend the following amount of time per week:

- 3 hours on phantom head work
- 1 hour in tutorial.
- 2 hours in lectures.

In the second semester (clinical) the students have one clinical session a week (2 hours) and spend on average 2 hours a week in the laboratory. They undertake at least one set of complete dentures from beginning to end, per student.

24 Methods of Learning/Teaching

- Lectures with slide and film support.
- A live video demonstration of the provision of complete dentures undertaken by the demonstrators involved in the module. (2 x 2 hours).
- Tutorials involving small groups of students, who are each given a particular subject, followed by discussion with a lecturer.
- Practical work (primary and secondary impressions on phantom heads, special trays, mounting of models on articulator and mounting of the teeth).
- Supervision on clinic by the same lecturers as teach the preclinical part.

25 Assessment Methods

Preclinical :

Continuous assessment by multiple choice questions or short answer questions.

Assessment of practical work at each stage, using a grid of predetermined criteria.

Clinical :

Continuous assessment at certain stages using a grid of predetermined criteria.

Example of a grid of assessment

GRID TO ASSESS THE SET UP OF PROSTHETIC TEETH

Instructions : For each item and for each student, a staff of teachers decide if :

- they strongly agree The student scores 2 points
- they somewhat agree The student scores 1 point
- they somewhat disagree The student has no point
- they strongly disagree The student looses 1 point

Each year and according to the general level of competence of students, the staff of teachers decide the sufficient amount of points for students to validate the exam.

Wax Finish.

1 The wax uses the full volume of the secondary impression.

2 The wax is perfectly placed, homogenous and the fitting surface is well adapted..

3 The stabilising polished surfaces are compatible with the surrounding anatomical structures.

4 The teeth are correctly fixed within the wax.

5 The articulator is at the correct setting and the models are neat.

Set up of anterior teeth.

6 The anterior teeth correspond to the anterior edge of the ridge on the model.

7 The axis of the upper anterior teeth is within normal limits for the frontal plane.

8 The axis of the upper anterior teeth is within normal limits for the sagittal plane.

9 The roots of the lower anterior teeth are over the ridge.

10 The incisal edge of the lower anterior teeth should not project further forward than the undercut of the vestibule.

11 The upper and lower incisor and canine teeth should not touch in centric relation.

Set up of posterior teeth.

12 The marginal ridges are aligned.

13 The palatal cusps of the posterior teeth are aligned with the maximum height of the ridge.

14 The curves of Spee and Wilson are respected.

15 The maxillary teeth overhang the mandibular teeth slightly vestibularly.

16 There are no teeth over the tuberosities or over the retromolar pad.

17 The premolars and molars are set up following conventional rules.

18 The posterior teeth are in maximum interdigitation.

19 On lateral movement there is continuous contact on both working and non working sides.

20 At extreme protrusion, the incisors are edge to edge and there is posterior contact.

26 Strengths

The same teachers undertake the preclinical and the clinical teaching of this module, which allows the teaching to be very succinct.

The clinical stage follows on directly from the preclinical, so that theoretical knowledge can be immediately applied.

Each student undertakes at least one set of complete dentures.

Each clinical group consists of a maximum of six students per demonstrator.

27 Weaknesses

It is difficult to find sufficient patients requiring complete dentures all at approximately the same time in the year. Certain students will not always be able to start with a patient straightaway.

The module comes early on in the clinical curriculum.

The module does not teach all aspects of complete dentures (immediate replacement dentures, intermediate dentures prior to gradual dental clearance, complete over partial dentures).

28 Innovations and Best Practices

The clinical part of the course leads on directly from the preclinical.

Live video demonstrations.

Assessment grids with predetermined criteria.

29 Plans for Futures Changes

Use of CD ROM.

Development of more interactive tutorials to insure that no student can remain passive.

Improved time management of students who do not have a patient for any given clinical session (collaboration with other departments).

11.3 Occlusion and Function of the Masticatory System

1. Introduction

The course of " Occlusion and Function of the Masticatory System " will be implemented next year during T1 (6th Year). The programme of this course is not yet definitively planned. Nevertheless, there is an introduction to this course during P2. During the module entitled " Initial Practical Training, Module 1 ", students learn how to use the articulator and during the course of dental anatomy, students are initiated to occlusion.

Section 12 : Periodontology

12.1 Periodontology

Dr Bernard COUDERT

Dr Jean-Marie RENOIR

Dr Yves DOUILLARD, e-mail : Yves.Douillard@u-clermont1.fr

1. Introduction

Periodontology is introduced into the curriculum in the 2nd year (P2) in the module entitled " Initial Practical Training, Module 1 " and continues throughout the 3rd (D1), 4th (D2) and 5th year (D3).

During P2, there is an introduction to the dental instruments specific to periodontology (maintenance of certain instruments by sharpening, use of manual scaling instruments). During D1, the course taught students fundamental theory, patient management and basic practice in periodontology. The students in D2 start on clinic and are initially taught non surgical treatments and then the basis of surgical intervention.

In D3, the module of periodontology is made up of two sections :

- Further insight into the theory behind surgical intervention, taught in tutorials.
- Clinical treatment of patients attributed to the student. The student undertakes initial periodontal treatment, non-surgical treatment and simple surgical treatment.

1. Primary Aims

Following the course of lectures, tutorials, practicals and eventually clinical experience (phantom head work, tutorials and clinical teaching), the students should be able to manage patients with periodontal pathology requiring non complex treatment.

2. Main Objectives

At the end of the course, the student should be able to:

- Undertake a detailed clinical exam
- Diagnosis of the different periodontal pathologies
- Recognise risk factors
- Propose and justify a treatment plan
- Recognise and manage the influence of oral hygiene measures on the prevention of periodontal disease
- Undertake the initial and non surgical phases of treatment
- Recognise and evaluate the results of non surgical treatment
- Be ready to advance to the simple surgical techniques
- Basic comprehension of more complex surgical techniques.

1. Hours in the Curriculum

P2 : Practicals 9h

D1 : Lectures 25h, Tutorials 10h

D2 : Lectures 25h, Tutorials 10h, Practicals 10h, Clinical work 32h

D3 : Tutorials 20h, Clinical work 64h

2. Methods of Learning/Teaching

P2, D1, D2 : Lectures and tutorials using slides, and video presentations prior to practical work on the periodontal intruments and surgical techniques.

D3 : - Tutorials: the students are divided into groups of four and each group prepares a presentation for the rest of the class with the aid of slides provided by the lecturer. There is a debate following each presentation.

- Live video demonstrations of surgical techniques.
- Supervision during clinical periods.
- An oral examination at the end of the first semester.
- Practical training of surgical techniques on animal jaws.

1. Assessment Methods

P2 : Written exam on instrument recognition, evaluation of scaling technique and evaluation of sharpening technique all form part of an overall continuous assessment mark.

D1 : A one hour written exam with short answer questions

D2 : Evaluation of documents given to patients (prescriptions, oral hygiene instructions) theoretical examinations (oral and written), presentation of two periodontal cases and a final written examination.

D3 : - Final examination: Several documented clinical cases are presented to the student, along with slides of the case. The student is asked to give a diagnosis and to propose a treatment plan.

- Continuous evaluation of clinical work.
- Oral examination during the year.

1. Strengths

- Teaching is true to the rules set by the ANDEM (Agence Nationale pour le Développement de l'Evaluation Médicale = National Agency for the Development of Medical Assessment)
- Early introduction to dental instrumentation so that the student clinician can choose the appropriate instrument, know how to use and sharpen it
- There is acquisition of the fundamentals of wound healing and the various periodontal treatments.
- Theoretical teaching is followed by practical work allowing this teaching to be applied on clinic.
- Demystification of periodontal disease.
- Initiation to surgical techniques.

1. **Weaknesses**
   - The small number of teaching staff does not allow overall management and review of patients treated.

1. **Innovations and Best Practices**
   - Recommendations made by the ANDEM are enforced for all teaching staff on clinic.
   - Each phase of treatment is evaluated (clinical record).
   - Live video demonstrations of surgical techniques.
   - Scaling is taught during year P2 on teaching models that have a false layer of calculus applied. The same models are used in year D1 but are mounted on phantom heads. Scaling and polishing is first carried out on clinic as part of a module in D1, following oral hygiene instruction.
   - Practical training of surgical techniques on animal jaws.
   - Surgical treatment is undertaken under supervision following presentation of the case and firm diagnosis.
2. **Plans for Future Changes**
   - Establishment of a patient recall system (using information technology).
   - Audit of clinical data and creation of clinical archives (slides, radiographs, charting).
   - Creation of a documentary archive.
   - It would be interesting to film the students in order to correct their technique in detail, in particular their rest points.
   - Greater collaboration with other departments in order to demonstrate a multidisciplinary outlook on treatment planning.
   - Integration of information technology.

Section 13 : Oral Surgery, Dental Radiography and Radiology

13.1 Oral Surgery

Pr Martine BAUDET-POMMEL

1. **Introduction**

This course takes place in the profile entitled " Pathology and Medical Therapeutics, Modules 4, 6 and 7 ". It is taught during D1, D2 and D3.

2. Primary Aims

The primary aim of this course is to recognise the limits and the techniques of oral surgery.

3. Main Objectives

The main objectives are :

- To teach the indications, contraindications and limits of each intervention.
- To teach the different surgical techniques available to the general dentist.
- To learn the existence of the other surgical techniques practised by maxillofacial surgeons but which could be of benefit to his/her patient.
- To teach the protocols associated with certain diseases or pathologies before any intervention.

1. Hours in the Curriculum

D1 : Lectures 20h, Tutorials 10h

D2 : Lectures 20h, Clinical work 50h

D3 : Lectures 15h, Tutorials 12h, Clinical work 50h

2. Methods of Learning/Teaching

Theory:

- Lectures with handouts, slides and video presentations.

Practicals and tutorials:

- Instrument recognition
- Simulation on models
- Simulation between students
- Set up of operating fields.

Clinical:

- Period spent in the dental hospital.
- Period spent in the maxillofacial unit.
- Students assist for general anaesthetics and for implant placement.

1. **Assessment Methods**

Assessment of theoretical knowledge:

- Multiple choice questions
- Clinical cases
- Short answer questions

Clinical assessment:

- Case presentations
- Justification of any intervention
- Preparation of an operating field
- Ability to undertake the intervention
- Cross infection control during the intervention
- Prescribing
- Patient follow up
- Behaviour towards the patient and the nursing team
- Each student has to perform at least 25 extractions.

1. **Strengths**

The unit belongs to a larger group encompassing dentistry, dermatology and maxillofacial surgery.

Use of video cassettes.

2. **Weaknesses**

Lack of teaching staff

3. **Innovations and Best Practices**

4. **Plans for Future Changes**

13.2 Radiography and Radiology

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Dr Valérie COLLADO, e-mail : Valerie.Collado@u-clermont1.fr

1. Introduction

The module of medical imaging is taught in second year. It includes teaching of all imaging techniques used in dentistry, of radiological anatomy of dental, periodontal and maxillofacial structures and the radiological semiology of dentofacial pathology. Students are presented with a course on medical imaging in each of the dental disciplines.

2. Primary Aims

- To teach the practical skills required to take conventional intraoral radiographs and their processing and classing within a file.
- To teach the anatomy and semiology relevant to radiology of the teeth and surrounding structures.

1. Main Objectives

- At the end of the second year students should be able to take, identify and file, unaided, any intraoral radiograph that they might need for any of the dental disciplines in the dental hospital.
- By the time the students start on clinic they should be aware of the pricing codes for each radiograph and should be able to take radiographs with enough confidence to reassure the patient.
- The student should have sufficient theoretical knowledge to recognise the limits and indications of each radiological technique.
- The student should know how to take a panoramic radiograph and its indications.
- The student should have sufficient knowledge of the normal and pathological appearance of craniofacial structures to be able to interpret the radiographs he or she has taken.
- The student should be aware of the differences in imaging technique according to dental discipline.
- The student should be aware of the effects of ionising radiation on living tissue and should have assimilated the notion of radioprotection. He or she should be able to take radiographs in a responsible fashion that limits the dose of x-ray radiation received and that protects the patient and the dental team.
- The student should have become familiar with a method of interactive teaching in which they are obliged to participate. The objectives given above are clearly explained in the first session.

1. Hours in the Curriculum

42 hours per student, of which 22 hours practicals and tutorials, 2 hours of information technology, 2 hours of clinical work, 4 hours of student presentations and 12 hours of lectures.

2. Methods of Learning/Teaching

● Interactive teaching, which is "learner centred" consisting of:

- Work in small groups and individual work.
- Practicals and tutorials.
- Personal work : Study of documents provided to the student in order to prepare for the following session.

  Research into the definitions of certain anatomical or semiological notions.

  Research for presentations in small groups.

Lectures are given by a specialist in each dental discipline (conservative dentistry, prosthetics, orthodontics etc). These lectures all have a common plan which is given to the lecturer concerned at the beginning of the year. This interdisciplinary collaboration brings a lot to the teaching and should be developed further.

● Teaching follows successive defined steps:

Students learn progressively and at their own pace:

- The use of the different materials and the different techniques used to take and process radiographs.
- The interpretation and analysis of these radiographs including progressive introduction of the underlying anatomy of: the teeth,
  the periodontium,
  the maxillofacial structures.

  and of the radiological semiology of the pathology of these structures once the "normal" appearance has been learnt.

●Use of information technology (See below)

1. Assessment Methods

Continuous assessment:

Practical: Assessment of radiographs taken and their interpretation.

Theoretical: Assessment of individual student presentations.

Written exam to assess knowledge of the theory of radiology.

Final examination on:

All the lectures given throughout the course by the specialists in different disciplines.

The content of all the student presentations.

The semiology of radiology.

2. Strengths

The strengths of this module are inherent in its teaching method. Teaching is progressive with defined stages and the students must actively participate. This is encouraged by work in small groups. Teaching is thus personalised and centred on the student who is responsible for his own advancement. This approach results in better acquisition and recall than by presenting material in its entirety and in a non-progressive fashion.

The nature of the discipline of radiology also allows us to confront the student at a very early stage with clinical problems that he or she will soon be called upon to solve. This factor motivates the student well, particularly as teaching may concern radiographs he or she has taken him or herself, or radiographs of their own teeth or surrounding structures.

The principle lecturer is young and well motivated to develop and improve the module and is interested in non traditional teaching methods.

3. Weaknesses

Teaching needs to be improved with regard to non conventional imaging techniques but unfortunately this depends upon lack of resources, such as computerised imaging techniques. There is an insufficient number of radiograph machines leading to much time loss during practicals. For the same reasons, practical experience of extraoral radiography is not given including that of panoramic radiography (although it is taught in tutorials).

The number of teachers is too small and there is a lack of coordination between the lecturers from other disciplines. Inter-module collaboration would be useful as it would allow simultaneous teaching of certain features (e.g. radiographic anatomy). Certain links could be made during practicals or tutorials to include teachers from two disciplines (for example

radiology and English for the exploration of web sites). It is for this reason that teachers from the different disciplines are asked to give lectures describing the use of radiology in their work.
This module is only undertaken in year 2. It might be appropriate to provide a revision course for students as they are about to enter their clinical teaching. It would be useful to provide more in depth teaching of radiological semiology in further years.

4. Innovations and Best Practices

Exploration of sites on the World Wide Web allows the students to examine high quality radiographs, anatomical peculiarities and images of relatively rare pathologies, and allows them to test their knowledge. This innovation will be improved in the future.

5. Plans for Future Changes

- To obtain more equipment in order to improve time management, teacher training and teaching quality :
    - a radiograph machine, an automatic processor and a system of image numbering
    - more documentation such as IT software.
- Training of a high performance teaching team
- Until now the clinical courses have been organised such that the second year students take radiographs in the dental hospital in one session. It may be possible for the second years to accompany a fifth or sixth year on clinic and to take any radiographs required as well as assisting with other acts. This would help teaching of cross infection control.
- An optional module could be introduced for students in their sixth year. These students would act as tutors to groups of students in the second year to help them prepare their presentations and to assist with practicals and tutorials. They would have to organise and present their own teaching and would be given presentations to prepare for the second years.
- An internet site could be created to present images of dental pathology in collaboration with teachers from each of the different disciplines of the dental hospital.

Section 14 : Oral Medecine and Oral Pathology

14.1 Oral Medecine and Oral Pathology

Pr Martine BAUDET-POMMEL

1. Introduction

This course takes place during D1 in the module entitled " Pathology and Medical Therapeutics, Module 3 ". Clinical work in oral medecine, oral pathology and oral surgery arise at the same time (during D2 and D3) (See Section 13.1).

2. Primary Aims

The primary aims are prevention, knowledge, treatment and monitoring.

- Predict the appearance of and know how to recognise and treat an oral lesion in order to relieve the patient and prevent further development.
- To recognise the limits and the techniques of oral surgery.
- To monitor the evolution of a lesion in order to prevent regression.

1. Main Objectives

The modules dealing with oral medecine and oral pathology aim to:

- Emphasise the role of prevention.
- Emphasise the need for early diagnosis.
- Teach the knowledge necessary to recognise, diagnose and treat most oral pathology.
- To teach the limits of the dental surgeon with respect to investigations and some medical or surgical treatments.

1. Hours in the Curriculum

D1 : Lectures 24h

D2 and D3 : Clinical work 50h each year (combined with oral surgery)

2. Methods of Learning/Teaching

Theory:

- Lectures with handouts, slides and video presentations.

Clinical:

- Period spent in the dental hospital.
- Period spent in the maxillofacial unit.

1. Assessment Methods

Assessment of theoretical knowledge:

- Multiple choice questions
- Clinical cases
- Short answer questions

Clinical assessment:

- Case presentations
- Justification of any intervention
- Preparation of an operating field
- Ability to undertake the intervention
- Cross infection control during the intervention
- Prescribing
- Patient follow up
- Behaviour towards the patient and the nursing team

1. Strengths

The unit belongs to a larger group encompassing dentistry, dermatology and maxillofacial surgery.

Use of video cassettes.

2. Weaknesses

Lack of teaching staff.

3. Innovations and Best Practices

4. Plans for Future Changes

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

20.6 Integrated patient Care

Pr Jean-Claude BOREL

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Dr Thierry ORLIAGUET, e-mail : Thierry.Orliaguet@u-clermont1.fr

1. Introduction

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 in T1 in year 2000).

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 independant and only one teacher supervised 6 to 8 students .

The course is set out to assess all possible solutions to the patients'problems, wether 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.

2. Primary Aims

The primary aims of this programme are :

- 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.

3. Main Objectives

The main objectives are :

- To assess the patients taking into account all their needs and desires
- To look for all the possible solutions to the patients' problems and to be able to select the particular solutions suitable for the individual patient.
- To present the different solutions in a comprehensive and understandable fashion

- To allow the patients to choose from the solutions offered the one they want to accept
- To prepare the students to progress to independent practice

4. Hours in the Curriculum

It is impossible to quantify the exact number of hours involved. The clinical time involved is 10 weekly hours for 6 months in D2 and 24 weekly hours during the first semester and then 14 weekly hours during the second semester in the 5th Year (D3).

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.

5. 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 organization 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.

6. 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.

7. 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.

8. Weaknesses

The examination system does not incorporate an assessment component in measuring achievement. It is planned to implement this factor during the last Year (T1).

9. Innovations and Best Practices

10. Plans for Future Changes

20.7 Dental Emergencies

Dr Thierry ORLIAGUET, e-mail : Thierry.Orliaguet@u-clermont1.fr

1. Introduction

The management of dental emergencies is taught in D3 as a clinical course, at a time when students have already learnt the appropriate dental procedures for the management of patient emergencies.

2. Primary Aims

The primary aims of this course are to develop the students' understanding of dental emergencies, and to develop the skilful and compassionate management of patients in pain or who are suffering from acute dental conditions.

3. Main Objectives

The student should be able to diagnose and manage dental emergencies with specific reference to : pulpitis, acute periapical periodontitis, acute periapical abscess, acute swellings of dental origin, acute gingivitis, acute periodontal abscess, dry socket, post extraction haemorrhage, traumatic fracture of teeth, subluxation and avulsion of teeth.
The student should also be able to manage all the emergencies due to the wear of denture : fractures, injuries, lost of teeth…

4. Hours in the curriculum

Each student in the 5th Year (D3) spends 2 hours per week (80 hours) for the management of dental emergencies.

5. Methods of Learning/Teaching

Clinical practice under the supervision of one teacher in the department of Dental Emergencies of our Hospital.

6. Assessment Methods

Clinical credits are recorded and assessed as in other clinical subjects.

7. Strengths

Students manage dental emergencies in the same way as in a private dental practice.

8. Weaknesses

9. Innovations and Best Practices

There is a real department of dental Emergencies in our Hospital.

10. Plans for Future Changes

15.3 Care of Special Needs Patients

Dr Martine HENNEQUIN, e-mail : Martine.Hennequin@u-clermont1.fr

1. Introduction

This programme is elective in our curriculum. It involves 4 students in year D2 and 4 in year D3.

Year D2:

International classification of handicap, disability and deficiency.

Epidemiology and public health aspects.

Oral and dental pathology in the special needs population.

Disorders associated with specific orofacial syndromes.

Management of the patient with special needs in general practice.

Dental hygiene for patients with special needs.

Year D3:

Management of the patient with special needs.

Assessment of orofacial motor capacity.

2. Primary Aims

To introduce the concept of management of the patient with special needs within general dental practice.

3. Main Objectives

In Year D2, students should :

- Differentiate between a deficiency, an incapacity, a disability and a handicap.
- Recognise the importance of the dental requirements of a patient with special needs (levels one and two).
- Knowledge of the principle deficiencies and incapacities that may place a patient in category two for dental need.
- Describe the orofacial syndrome associated with Down syndrome.
- Describe the orofacial consequences of autism.
- Plan a programme of dental prevention in a centre for adults or children with special needs.

In Year D3 :

- Behaviour management of the patient with special needs in a clinical setting.
- Undertake an assessment of orofacial motor function.
- Assess the need for dental and functional treatment of a person with special needs during a consultants clinic.
- Differentiate between the “ideal” treatment plan and a “realistic” treatment plan for a person with special needs.
- Knowledge of the indications and contraindications of general anaesthesia and conscious sedation.
- Prescription of an anxiolytic for a person with special needs.

- Establish a treatment plan for a person with special needs to be treated under general anaesthetic.

- Undertake a scale and polish on a person with special needs.

- Undertake the monitoring of a patient with special needs whilst having treatment under nitrous oxide conscious sedation.

1. Hours in the Curriculum

Approximately 90 hours per student.

2. Methods of Learning/Teaching

- Lectures and tutorials (with slide and film support).
- Literature searches.
- Participation in dental hygiene workshops held in centres for persons with special needs.
- Dental assistance during general anaesthetics given to patients with special needs for dental treatment.
- Dental assistance during treatment of persons with special needs under local anaesthetic with or without conscious sedation.
- In year D3, management of persons with special needs requiring simple dental treatment.

3. Assessment Methods

Mandatory attendance.

Multiple choice examination.

Clinical examination.

4. Strengths

The module is an original concept, unique in France, that benefits from the presence of a unit of special needs within the dental hospital.

5. Weaknesses

The existing hospital structure does not allow a larger number of students to be involved.

The existing national health structure (predominately private general practice) means that the students are unlikely to be able to use the skills acquired here in their professional practice.

6. Innovations and Best Practices

The existence of this module in itself is a great innovation.

7. Plans for Future Changes

To involve all the students in this module.

Section 16 : Behavioural Sciences

20.6 Behavioural Sciences and Communications

Dr Paul PIONCHON, e-mail : Paul.Pionchon@u-clermont1.fr

1. Introduction

The need for the inclusion of comprehensive behavioural sciences programmes in the undergraduate curricula in all health care courses has become increasingly obvious in the past twenty years. Ideally such programmes include aspects of the individuals social and personal development, attitudes and communications skills.

This teaching is split over three years (D1, D2 and D3). It forms part of the initial clinical introduction in year D1 and part of public health in years D2 and D3.

2. Primary Aims

The aim of this teaching is to produce future clinicians who will form part of a caring profession. Additionally, the students are encouraged to develop a sense of critical discrimination. This course corresponds to the 1992 law which introduced 20% general culture into the PCEM 1 year and that encourages dental and medical schools to introduce teaching of the social and human sciences throughout the curriculum. Reform of the dental curriculum has allowed 14 to 18 hours of medical psychology in T1.

3. Main Objectives

-Awareness: Initiation to the basic principles of psychopathology and psychiatry in order to be able to provide dental treatment plans which are relevant to the individual patient.

-Knowledge: The psychosocial aspects of general dental practice: the quality of patient-dentist communication and the management of the cognitive and emotional aspects of dental treatment (with emphasis on anxiety). The objectives include the improvement of any given clinical

intervention (non specific effects of treatment), prevention of the evolution of dental disease by patient denial or avoidance and prevention of occupational health risks (stress management).
Following the course the student should be able to:
- Understand the notion of personality, the role of context, the psychological effects of illness and the subjectivity of the clinical relationship.
- Know how to greet a patient and how to create an optimal environment in which to listen to the patients' requests and to establish a treatment contract. Know how to conduct a patient interview.
- Understand all aspects of the dentist-patient relationship and be able to adapt according to the patient.
- Know how to deal with a patient in pain.
- Know how to deal with conflict and treatment failure.
- Understand the nature of psychological management and recognise when to refer a patient if necessary.

4. Hours in the Curriculum

Approximately 50 hours over three years. About 10 hours will be available in T1.

5. Methods of Learning/Teaching

Teaching aims to be interactive. The lectures are presented as themed conferences with student debate included systematically. Situations from the students' clinical practice are also analysed. Individual study is encouraged and consists of reading specific articles. Video recording allows analysis of certain clinical situations.
Preclinical students are prepared for entry on clinic by role playing.
Some students are able to acquire further experience by supervision on clinic or by attendance at consultants clinics (particularly the chronic pain clinic).

6. Assessment Methods

Several different methods of evaluation are used. Traditional written examination is only partly relevant to this teaching which tries to emphasise individual reflection rather than memorisation of a large quantity of facts. Written questions revolve around clinical situations. For the pre-clinical students the exam consists of assessment during a clinical examination of certain consenting patients in pre determined scenarios. The grade is not related to the ability to diagnose but to the quality of welcome, the ability to collect pertinent facts on interview and on the ability

to reassure the patient. In year D3 the main evaluation is a written case presentation with emphasis on the analysis of the individual response and feelings of the student clinician.
The teaching itself is not formally assessed.

7. Strengths

This module is an innovation for the French system. It anticipates the teaching which will be obligatory in T1 and is spread over a reasonable number of hours (only the faculty of Paris V – Montrouge has a similar course). The teaching offers students a period of reflection and self expression. It is associated as closely as possible with clinical practice (dental emergencies, initial consultations, children, the edentulous, patients in pain etc.).

8. Weaknesses

One weakness of this module is that it is taught by a single lecturer. Certain themes are thus less well covered than others, including anthropology and medical sociology. The main weakness is, however, that many of the other teaching staff feel little implicated in this teaching and different clinical practices thus send contradictory messages to the students.
The experimental status of this module, the lack of a structured pathway for its teachers and the small number of trained staff nationally mean that these problems will not be easily solved.

9. Innovations and Best Practices

10. Plans for Future Changes

The module could call upon outside lecturers (psychologists, sociologists or anthropologists). Additional individual study could be introduced as an optional module in T1, perhaps as group presentations of case analyses in collaboration with non dental psychologists.
Teaching for the clinical staff and increased awareness of the module amongst the staff should be an objective.

20.7 Ethics and Jurisprudence

Dr Stéphanie TUBERT, e-mail : Stéphanie.Tubert@u-clermont1.fr
Dr Christine ALBERT-GAUTHIER

1. Introduction

This course takes place in the module entitled " Initial Practical Training 2 " in D1.

2. Primary Aims

This module introduces the students into the legal aspects of their future profession.

3. Main Objectives

At the end of the module the students have to :

- be able to respect the professional code of ethics during their training period
- be able to agree with a patient on the care contract
- observe the rules of medical secrecy during their clinical practice
- be able to know about health insurances in France
- be able to fill in all necessary agreement forms before starting prothetic treatments

4. Hours in the Curriculum

The course comprises 12 hours

5. Methods of Learning/Teaching

Depending on the topic : either lectures or group work

6. Assessment Methods

The students are tested during a one hour theoretical final exam with short questions.

7. Strengths

This module must encourage the students during their clinical practice to respect ethics and legal obligations.

8. Weaknesses

9. Innovations and Best Practices

10. Plans for Future Changes

Assessment of the teaching and methods by the students themselves would be useful

20.8 Practice Management

Dr Stéphanie TUBERT, e-mail : Stéphanie.Tubert@u-clermont1.fr
Dr Christine ALBERT-GAUTHIER

1. Introduction

This course takes place in the module entitled " Professional Life and Public Health " in D2.

2. Primary Aims

This course enables students to go deeply into the legal aspects they will face as dental surgeons, and introduces them to the legal odontology.

3. Main Objectives

At the end of this module, the students have to :

- know the texts about the relations between the dentist and health insurances
- be able to write out all the nessary documents for communication either with the social organization or with the patients
- know about the French judicial system, and about professional responsabilities of dentists.
- know the objectives and methods of the legal odontology identification
- know how the profession is organized (Dental Professional Association)
- know about the various expert opinions the may have to deliver as dental surgeons

4. Hours in the Curriculum

There are 18 hours allocated in the curriculum to this topic.

5. Methods of Learning/Teaching

Depending on the topic : lectures, group work, tutorials

6. Assessment Methods

Students are tested with short questions with a one hour theoretical final exam.

7. Strengths

The module teaches the students to develop a responsible attitude during their practical training, and teaches them to use health insurance forms

8. Weaknesses

9. Innovations and Best Practices

10. Plans for Future Changes

It could be useful for the students to assess this module in order to improve teaching methods and learning.

20.9 English language

Mrs Martine BEGUET-JARNEVIC, e-mail : Martine.Beguet@wanadoo.fr

1. Introduction

Recently introduced in the curriculum, the English language course is offered to 2nd and 3rd year students with mandatory attendance and examination. The topics are chosen to be in accordance with the audience's interests in scientific, medical and dental areas.

2. Primary aims

The aims of this course are :

- To provide refreshing courses in English for students who stopped practising on leaving secondary education and who will need linguistic skills in the course of their dental studies.
- To introduce cultural differences and topical issues to compare the various ways of tackling problems common to France and some English speaking countries.

1. Main objectives

Some of the objectives are :

- To reactivate dormant linguistic knowledge
- To enrich linguistic knowledge
- To encourage mainly oral expression, oral comprehension and reading comprehension
- To awaken or maintain students'curiosity for subjects which are not 100% Odontology
- To develop autonomy through team work, mutual support and collaboration
- To help them combat self-consciousness or passive course attendance or even reluctance for this subject matter.

1. Hours in the curriculum

Second and third year students have to attend 60 hours of English classes (a total of 120 hours over two years.

2. Methods of Learning/Teaching

One of the main concerns is to provide as much variety as possible. This is possible thanks to diversified tools such as audio cassettes, video cassettes, newspaper articles, extracts from various documents such as reports, books, or even short stories, self made transparencies, and even CD ROM or the Internet.

Some of the sessions are targeted at the group as a whole (for example a video which is watched after comprehension task sheets have been handed out, or an introductory cartoon, or a picture which is projected to launch a new subject, or a general debate which enables the students to use the recently acquired notions in a given context, or a grammar revision exercise). Nevertheless, as often as possible the audience is split up into smaller groups. Each team has a document whose nature and content not only differs from the others, but also complements them. Each team then has to report to the class. Thus contradictory or complementary aspects of the same theme are set off.

3. Assessments Methods

Continuous assessment and final exam, with oral and written tasks.

4. Strengths and Weaknesses

I am afraid that I have failed with some 3rd year students whose reluctance, not to say refusal, was expressed right from the beginning. A few students, but enough to arouse attention, feel that they cannot catch up. They resent speaking in public and self-consciousness remains a problem. Because it is painful for them to acknowledge this, they persistently ask for some grammar, perceived as a panacea, while it is obvious that it does not help trigger expression or develop comprehension. In fact a good command of english is not perceived yet as a supplementary asset. (Because it means extra work ?)

On the contrary, the 2nd year students seem to trust me, have developed satisfactory autonomy and evinced genuine curiosity. They seem to appreciate the diversity of subjects and methods and do feel free to ask questions or even make suggestions.

Throughout my first year at the Faculty of Odontology I have kept innovating to take into account all the new facets of my job.

5. Plans for Future Changes

- It would be interesting to try to provide personalised guidance to the students who need it most, while letting the other students be more and more autonomous. This would be possible with multimedia activities, for example. Hence, more computers would be welcome.
- Do English courses limited to the first two years actually meet the needs of dental students ? This probably will be discussed in the future.
- Closer collaboration with professors and researchers may contribute to a better integration of the English language course in the curriculum.

Section 17 : Examinations, Assessments and Competences

Dr Maurice MORENAS, e-mail : Maurice.Morenas@u-clermont1.fr
Dr Valérie ROGER, e-mail : roger@clermont.inra.fr

At the end of each module, an assessement is carried out. All assessments and examinations are summarized in the paragraph "Methods of Assessment" of each section (sections 5-16).

As no format of assessment has been shown to be superior, and as some assessment methods lend themselves more to one aspect of learning than another (cognitive knowledge, clinical skills or communications), a combination of any of the methods set out below are used :

- Multiple choice questions of various formats
- Sentences to be completed
- Short Answer Questions
- Short Essay Questions
- Structured Problems
- Clinical Case Presentation
- Competence tests : preclinical and clinical tests of competence at designed procedures. The clinical competence tests may be assessed using a grid of assessment.
- Clinical credits points : a measure of assuring appropriate clinical experience. In addition to clinical credits points, some “validated” treatments on clinic are required for the assessment of some modules (for example, the module " Pathology and Treatment of the Tooth") . A

treatment may be validated if the demonstrator has not had to intervene, if the hygiene rules of the dental school have been respected, and if the diagnosis and treatment plan for that particular tooth can be justified.

Strengths

- Permanent effort to adapt the method of assessment to the competences we want to evaluate. As much as is practical, our assessments are based on evidence from internationally respected educational sources. Members of our staff attend conferences on medical and dental education and assessment in order to ensure continuing development of the curriculum and the assessment methods which both drive and ensure quality in students learning.
- Standardized and formalized tests of practical skills
- In addition to the assessment of students competences, there is an increasing effort to implement courses assessments.

Weaknesses

- Partial lack of formative assessment. There is some continuous assessment in several modules but it is considered as a summative assessment and not as a formative one.
- Extensive workload during periods of multiple exams.
- Interdisciplinary approach missing

Innovations and Best Practices

- In addition to clinical credits which assess the quantity of clinical work done, we try to implement methods which assess the quality of the work (i.e. grids of assessment, validated treatments…)

Plans for Future Changes

- An Objective Structured Clinical Examination will be implemented at the end of the curriculum to assess not only clinical skills but also communications and attitudes.

Explain as to what level external examiners are involved

Professors in Medecine, hospital consultants, clinical demonstrators and part-time university lecturers who participate to the teaching are also involved in the assessment process.

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

The curriculum modifications of 1995 implement an exam called CSCT (Certificate of Clinical Synthesis and Therapeutics) at the end of the 5th year. This exam is mandatory for students to be in practice and to be registered as dentists. The first session of this exam will take place at the end of June 1999. A multiple choice questionnaire and an OSCE will make up this final exam.

In addition to this exam, the student has to defend a thesis on a subject he(she) has chosen with his(her) tutor.

The Government is the degree awarding authority.

The extent to which the school seeks those competences recommended by the EU Advisory Committee on the Training of Dental Practitioners

The system of competence testing outlined above is developed according to the guidelines of the EU Advisory Committee.

Section 18 : Other Influences

Dr Maurice MORENAS, e-mail : Maurice.Morenas@u-clermont1.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 toothpastes.

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 hospitalized 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

In every treatment plan discussion, obligate prerequisite for the start of the treatment of patients, the students have to explain the scientific basis for their approach and decisions. When the treatment is complex, the student is allowed to call for a multidisciplinary staff : practitioners of different specialities discuss during a round table clinics about the most acceptable treatment plan according to the medical and dental histories of the patients as well as the financial possibilities.

On regular basis, continuing education is organized intramuros for the practitioners of the surrounding area. Students are invited to attend these meetings.

Emphasis was put recently on literature review and the evidence base of treatment planning.

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.

Some of our electives modules involve our students in other University activities. These courses are for example Sport (golf, badminton, archery), Choral Singing and First Aid.

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 " Amicale dentaire " (" Dental StudentsAssociation ") 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 organize 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 Medecine. 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 medecine and dentistry a clearly defined number of students who are allowed to pursue their medical or dental studies.

The first year leads to an admission test at the end of which, on the basis of merit based on the number of points achieved, 77 students are admitted to carry on medical studies and 32 students dental studies at the University of Clermont-Ferrand. Moreover, our Faculty receives 10 students from cities which have a Faculty of Medecine but no Faculty of Dentistry (4 students from Dijon, 4 students from Tours and 2 students from Limoges).

What efforts are made to ensure students have sufficient time for student reflection

There was, in the past, an unrealistic amount of reading material apportioned to the students. Our Faculty was rebuilt in 1992 and at this occasion, a library was implemented. Teachers have changed their teaching methods to allow students to frequent this library as often as possible. This allows more time for reflection. Nevertheless this is insufficient.

Section 19 : Student Affairs

Visitors should meet full class of final year (D3) together with the class representatives of earlier years and some recent graduates.

Name of Student representatives who will discuss this :

Fifth Year : Miss Caroline CHAMARD

Fourth Year : Mr Jean-Marc CHAMOUX

Third Year : Mr Philippe GÖES

Second Year : Miss Vanessa DAMON

But other students will be present.

20.6 Basic Data from Dental School

a) Average number of dental students qualifying per year : **42**

b) Average number of dental students admitted to the first year : **42**

c) Length of course in years and/or semesters : **6 years**

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

There is no vocational training **following graduation** in France but in our Faculty :

- there is an elective period of vocational training during P2 . In the French context, this course is very innovative. The primary aim of this stage is to show students a dental practice in its true light.
- a mandatory period (15 days) of vocational training during D3 was implemented by the curriculum modifications of 1995.

During these two periods, students have no dental practice ; they are only observers.

a) If yes to d) above, is that organised by the University/Dental School : **Yes** (for the two periods of training listed above)

19.2 List different postgraduate courses

DU (University degrees not awarded by the government)

- Removable Prosthodontics
- Prosthodontics : Edentulous State

- International Dental Assistance : Introduction to an approach of public health in the buccal domain. Poor populations and developing countries.

CES (Certificate of Higher Studies) :

- Buccal biology, option Anatomy and Physiology
- Biomaterials
- Orthodontics
- Removable Prosthodontics
- Prosthodontics : Edentulous State
- Oral surgery

Specialities :

- Orthodontics

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

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

Section 20 : Research and Publications

Pr Alain WODA, e-mail : Alain.Woda@u-clermont1.fr

Dr Radhouane DALLEL, e-mail : Radhouane.Dallel@u-clermont1.fr

A. The Biological Sciences None

B. Anatomy, Physiology, Pharmacology, Microbiology, General pathology

Representative: Pr Alain WODA e-mail: Alain.Woda@u-clermont1.fr

C. General Medecine, General Surgery None

D. Orthodontics, Paediatric Dentistry None

E. Public Dental health

Representatives : Dr Martine HENNEQUIN e-mail: Martine.Hennequin@u-clermont1.fr

Dr Stéphanie TUBERT e-mail: Stephanie.Tubert@u-clermont1.fr

F. Restorative Dentistry, including Periodontology, Conservative Dentistry, Endodontics, Prosthodontics

Representative: Dr Maurice MORENAS e-mail: Maurice.Morenas@u-clermont1.fr

G. Oral Surgery, Oral Medicine, Oral Pathology

Representative: Pr Martine BAUDET-POMMEL

20.1 Number of publications in refereed journals

20.2. Number of textbooks published by staff

20.3. Number of chapters in books

20.4. Grants received > 1000 Euros

BQR (1996, 1998)

Rhône Poulenc Rorer

Abbott-France

Veyron-Froment

INSERM (1999-2000)

Ministère de l'éducation nationale (MESR) (1996-1999)

France-Quebec (1996-1999)

ECOS-Chili (1997-2000)

Fondation dentaire (1997)

Conseil régional (1997, 1999)

Institut UPSA de la douleur (1998-1998)

European community: Biotechnology (1999-2000).

INAVA-Pierre Fabre (1999)

EZUS-Lyon

Unité INRA-Gepta (1996-1999)

Jeune équipe (MESR) (1996-1997)

20.5. Number of invited presentations at international meetings

B. ANATOMY, PHYSIOLOGY, PHARMACOLOGY, MICROBIOLOGY, GENERAL PATHOLOGY

Representative: Pr Alain WODA e-mail: Alain.Woda@u-clermont1.fr

B.1 TOPIC: **Mastication, Texture**

PUBLICATIONS

International

Peyron M.A., Mioche L., Renon P., Abouelkaram S. Masticatory jaw movement recordings: A new method to investigate food texture. Food Qual. Pref. 7:229-237, 1996.

Peyron M.A., Maskawi K., Woda A., Tanguay R., Lund J.P. Effects of food texture and sample thickness on mandibular movement and hardness assessment during biting in man. J. Dent. Res. 76:1-7, 1997.

Westberg K., Clavelou P., Sandstrom G., Lund J.P. Evidence that trigeminal brainstem interneurons form subpopulations to produce different forms of mastication in the rabbit. J. Neurosci. 18:6466-6479, 1998.

Compagnon D., Veyrune J.L., Morenas M., Faulks D. The development of a synthetic bolus using silicone elastomer for the study of masticatory efficiency. J. Prosthet. Dent. In press.

Mioche L., Bourdiol P., Martin JF., Noel Y. Patterns of mastication related to food texture as studied by EMG. Arch. Oral. Biol. In revision.

Bourdiol P., Mioche L. Evaluation of human dental arch surfaces: relationships with EMG mastication pattern. Arch. Oral. Biol. In revision.

National

Compagnon D., Veyrune J-L. Morenas M. Intérêt des matériaux polymères souples dans l'élaboration d'un bol alimentaire synthétique. Cah prothèses, 94 :65-72, 1996.

Veyrune J-L, Mioche L. Mastication et perception de la texture chez les édentés totaux appareillés. AGORAL 96: 401-406, 1996.

Peyron M.A., Mioche L., Mathonière C. Evaluation de la fermeté de fromages par des enregistrements de la mastication et des mesures instrumentales. Cah Rhéologie, volume XV, 4:539-548, 1997.

Mathonière C., Mioche L., Peyron M.A., Culioli J. Evaluation de la texture de la viande par enregistrements physiologiques de la mastication, analyse sensorielle et tests rhéologiques. Les Cah Rhéologie, volume XV, 4:549-557, 1997.

Woda A., Pionchon P. Postures mandibulaires et positions de références. Comptes-rendus CNO, pp 19-40, 1997.

GRANTS RECEIVED > 1000 Euros :

INSERM
Unité INRA-Gepta

COMMUNICATIONS

International

Orliaguet T., Hennequin M., Roux D., Feine J. An assessment of the chewing ability of handicapped patient, preliminary results. Proceedings of the International Association of Dentistry for the Handicapped, Edinburgh (1996).

Peyron M.A., Lassauzay C., Woda A. Effects of increased hardness on jaw movements and muscle activities during chewing of food models. 76th General Session & Exhibition of the IADR, Nice (1998).

National

N'Guessan K.S., Mioche L. Mastication et perception de la texture chez des sujets porteurs de prothèses adjointes complètes. 4eme Forum Jeunes Chercheurs en Odontologie, Nancy (1997).

Peyron M.A., Mioche L., Mathonière C. Evaluation de la fermeté de fromages par des enregistrements de la mastication et des mesures instrumentales. 32ème Colloque Annuel du Groupe Français de Rhéologie, Nantes (1997).

Mathonière C., Mioche L., Peyron M.A., Culioli J. Evaluation de la texture de la viande par enregistrements physiologiques de la mastication, analyse sensorielle et tests rhéologiques. 32ème Colloque Annuel du Groupe Français de Rhéologie, Nantes (1997).

Bourdiol P. Surfaces des facettes et mastication. Congrès de le SFODF, Paris (1998).

Woda A. Occlusion et manducation.XVIème journées internationales du CNO, Tours (1999)

B.2 TOPIC: **Trigeminal Pain Mechanisms**

PUBLICATIONS

International

Raboisson P., Dallel R., Bernard J.F., Le Bars D., Villanueva L. Organization of efferent projections from the spinal cervical enlargement to the medullary subnucleus reticularis dorsalis and the adjacent cuneate nucleus: a PHA-L study in the rat. J. Comp. Neurol. 367:503-517, 1996.

Dualé C., Luccarini P., Cadet R., Woda A. Effects of morphine microinjections into the trigeminal sensory complex on the formalin test in the rat. Exp. Neurol. 142:331-339, 1996.

Dallel R., Luccarini P., Molat J.L., Woda A. Effects of systemic morphine on the activity of convergent neurons of spinal trigeminal nucleus oralis in the rat. Eur. J. pharmacol. 314:19-25, 1996.

Woda A. The dual organization of nociception in the trigeminal sensory complex. 2nd KAOB International symposium. Orofacial Pain: Its mechanism and control. The Korean Academy of Oral Biology, Seoul, pp 1-6, 1996.

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Raboisson P., Flood K., Lehmann A., Berge O-G. MK-801 Neurotoxicity in the guinea pig cerebral cortex: Susceptibility and regional differences compared with the rat. J. Neuro. Res. 49:364-371, 1997.

Picard P., Bazin J.E., Conio N., Ruiz F., Schoeffler P. Ketorolac potentiates morphine in post-operative patient controlled analgesia. Pain 73:401-406, 1997.

Westberg K.G., Clavelou P., Schwartz G., Lund J.P. Effects of chemical stimulation of masseter muscle nociceptors on trigeminal motoneuron and interneuron activities during fictive mastication in the rabbit. Pain 73:295-308, 1997.

Dallel R., Dualé C., Molat J.L. Morphine administered in the substantia gelatinosa of the spinal trigeminal nucleus caudalis inhibits nociceptive activities in the spinal trigeminal nucleus oralis. J. Neurosci. 18:3529-3536, 1998.

Woda A., Navez M.L., Picard P., Gremeau C., Pichard-Leandri E. A possible therapeutic solution for stomatodynia (burning mouth syndrome). J. Orofacial Pain 12:1-6, 1998.

Cadet R., Pajot J., Papon A., Woda A. Is there a correlation between scores of nociceptive behavioral responses to formalin injections given at different body sites in the rat ? Neurosci. Lett. 242:123-126, 1998.

Luccarini P., Cadet R., Dualé C., Woda, A. Effects of lesions in the trigeminal oralis and caudalis subnuclei on different orofacial nociceptive responses in the rat. Brain Res. 803 :79-85, 1998.

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National

Woda A., Gremeau C. Le point sur la stomatodynie. Act odontostomat. 204 : 509-516, 1998.

CHAPTERS IN BOOKS

Dallel R. Capsaïcine et douleur : aspects neurophysiologiques et cliniques. In canaux ioniques et douleur. XXIIème Réunion Annuelle de la Société Française de la Douleur, Paris (1998).

Raboisson P., Dallel R. Orofacial formalin test. In : Nociception and Pain in Animals : Measurement Techniques and procedures, edited by M. Kavaliers, K.P. Ossenkop and P.R. Sanberg. Austin : R.G. Landes Co. In press.

Woda A. Mechanisms of neuropathic pain. In: Orofacial pain: from basic science to clinical managment. Tansfer of knowledge in pain research to teaching in dentistry. Edited by Lavigne G, Lund J.P., Dubner R., Sessle B.J. Quintessence Publishing Co. Inc. In press.

GRANTS RECEIVED > 1000 Euros :

Ministère de l'éducation nationale (MESR)
France-Quebec

ECOS-Chili
Fondation dentaire
Conseil régional
Institut UPSA de la douleur
European community: Biotechnology
INAVA-Pierre Fabre
EZUS-Lyon

COMMUNICATIONS

International

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Eschalier A., Dubray C., Woda A. Pharmacology research in Auvergne. University Meeting in Health & Related research. Clermont-Ferrand (1997).

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Dallel R., De Chazeron I., Sierralta F., Raboisson P. Diencephalic projections of the rat spinal trigeminal nucleus oralis studied with the PHA-L method. Society for Neuroscience, 27nd annual meeting, New Orleans, LA (1997).

Woda A., Parada C.A., Luccarini P. Intranuclear injection of MK801 in the trigeminal caudalis subnucleus decreases the Wind-up of neurones in the trigeminal oralis subnucleus. 76th General Session & Exhibition of the IADR, Nice (1998).

Pionchon P. Psychosocial components of pain conditions related to temporomandibular disorders : Expectations and knowledge in a sample of French dentists. 76th General Session & Exhibition of the IADR, Nice (1998).

Woda A. Advances in the clinical management of chronic facial pain. 86 World Dental Congress, Barcelone (1998).

Raboisson P., Ricard O., Bernard J.F., Dallel P. Projections of the spinal trigeminal nucleus oralis to the parabrachial area: a Pha-l study in the rat. Society for Neuroscience, 28th annual meeting, Los Angeles (1998).

Woda A Mechanisms of neuropathic pain. Vancouver (1999).

Dallel R. Aspets pharmacologiques de la douleur du cancer. Djerba, Tunisia (1999).

National

Raboisson P. Physiologie de la douleur. ONFOC 77, Dammarie les Lys (1996).

Dallel R. Pharmacologie de la douleur. ONFOC 77, Dammarie les Lys (1996).

Woda A. Diagnostic différentiel des douleurs oro-faciales. ONFOC 77, Dammarie les Lys (1996).

Pionchon P. Aspect psychologique de la douleur. ONFOC 77, Dammarie les Lys (1996).

Woda A. La gestion des douleurs oro-faciales au cabinet dentaire. Cercle Odonto-Stomatologique de la Seine Saint Denis. Paris (1997).

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Woda A., Pionchon P. Système neuro-musculaire et référence clinique. 14ème Journées Internationales du Collège National d'Occlusodontologie. Paris (1997).

Woda A. Rôle du sous-noyau oral dans la nociception issue de la sphère orale. Conférence 4eme Forum Jeunes Chercheurs en Odontologie, Nancy (1997).

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Woda A. Algies faciales atypiques et stomatodynies. CNO, Lyon (1997).

Woda A. Rôle de l'usure dans l'équilibre des arcades dentaires. Les Journées de l'Orthodontie, Paris (1997).

Woda A. Organisation centrale du complexe sensitif du trijumeau. Cours de perfectionnement : " Névralgies faciales et algies faciales atypiques d'origine trigeminale. Société Française de la Douleur, Paris (1997).

Woda A. Diagnostic et prise en charge en Odontologie. ONFOC, Feur/Loire (1998).

Dallel A. Physiologie de la nociception trigéminale. CNO, Montrouge (1998).

Woda A. Séméiologie des douleurs faciales idiopathiques. CNO, Montrouge (1998).

Woda A. La formation à la recherche. Table ronde, Clermont-Ferrand (1998).

Dallel R. Capsaïcine et douleur : aspects neurophysiologiques et cliniques. XXIIème Réunion Annuelle de la Société Française de la Douleur, Paris (1998).

Voisin D. Conductances calciques et transmissions nociceptives spinales. XXIIème Réunion Annuelle de la Société Française de la Douleur, Paris (1998).

Woda A. Douleurs oro-faciales. XXIIème Réunion Annuelle de la Société Française de la Douleur, Paris (1998).

Dallel R. Douleurs neuropathiques et capsaïcine. Société Lyonnaise d'étude de la douleur (1999).

E. PUBLIC DENTAL HEALTH

Representatives : Dr M. Hennequin e-mail: Martine.Hennequin@u-clermont1.fr
Dr S. Tubert e-mail: Stephanie.Tubert@u-clermont1.fr

E.1 TOPICS : **Dental prevention programme, Oral assessment of Down syndrome**

PUBLICATIONS

International

Tubert-Jeannin S, Morel A. Evaluation of a new dental benefit plan for children conducted in Auvergne (france) since 1992- Community Dent Oral Epidemiol. 26: 272-82,1998.

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Allison PJ, Hennequin M, Faulks D. Dental health care access among individuals with Down syndrome. Community dental health. In revision.

National

Hennequin M., Veyrune J.L., Bourdiol P. Santé bucco-Dentaire de personnes porteuses d'une trisomie-21 : Les limites de l'autonomie. C.R. Fédération des associations pour l'insertion sociale des personnes porteuses d'une trisomie 21;46-58, 1997.

Tubert-Jeannin S., Morel-Papernot A., Goussaud H. Evaluation du programme de prévention mené en Auvergne par la C.M.R.A. des professions indépendantes. Info. Dent., 28: 1977-82, 1998

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Roger V., Millet L., Fonty G. Pourquoi nos dents se déchaussent-elles ? INRA Mensuel 96 : 5-6, 1998

Hennequin M., Tubert-Jeannin S. Prise en charge des personnes handicapées par les chirurgiens dentistes du Puy de Dôme, Info. Dent. In press.

GRANTS RECEIVED > 1000 Euros :

Jeune équipe (MESR)

COMMUNICATIONS

International

Hennequin M., Roux D. Reason for consultation and real need for treatment in disabled people treated under general anaesthesia. Proceedings of the International Association of Dentistry for the Handicapped, Edinburgh (1996).

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Hennequin M., Counil S., Feine J.S. Localization of stimuli and pain latency in Down's syndrome individuals. 76th General Session & Exhibition of the IADR, Nice (1998).

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Allison P.J., Hennequin M. Predictors of dental treatment in french Down syndrome individuals . IADR , Vancouver (1999).

National

Hennequin M. Santé bucco-dentaire des personnes porteuses de Trisomie 21 : les limites de l'autonomie. VIème Journées Nationales Trisomie 21, Clermont-Ferrand (1997).

Hennequin M. Utilisation du mélange equimolaire oxygène/protoxyde d'azote (Meopa) pour la réalisation d'actes douloureux en dehors de la salle d'opération. Utilisation en dentisterie chez la personne handicapée. Groupe d'intérêt " Pédiatrie/Orofacial ". Société Française de la Douleur, Paris (1997).

Millet L., Roger V., Fonty G. Mise en évidence des Archaeaméthanogènes dans la flore buccale au moyen de la PCR. Colloque de la Société Française de Microbiologie : Microorganismes anaérobies, Lille (1997)

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Hennequin M. Le syndrome bucco-facial associé à la trisomie 21. Gironde, Bordeaux, (1998).

Roger V. Les tests de susceptibilité à la carie : principes, indications et limites. Séminaire scientifique : "Dentisterie Préventive". XVIIIèmes Journées du C.N.E.O.C, Lyon (1998)

Hennequin M, Faulks D., Feine J., Allison P.J. L'expression de la douleur chez les personnes porteuses d'une trisomie 21 . Fédération des Associations pour l'insertion sociale des personnes porteuses d'une trisomie 21. Pau (1999) .

Hennequin M., Feine J., Orliaguet T. Incidence de l'hypotonie linguale sur la mastication : cas des personnes porteuses d'une trisomie 21. CNO, Tours (1999).

F. RESTORATIVE DENTISTRY, INCLUDING PERIODONTOLOGY, CONSERVATIVE DENTISTRY, ENDODONTICS, PROSTHODONTICS

Representative : Dr Maurice MORENAS e-mail: Maurice.Morenas@u-clermont1.fr

F.1 TOPIC : **Titan alloys, PMMA-fibers**

PUBLICATIONS

International

Auroy P., Duchatelard P., Zmantar N., Hennequin M. Silicone rubber for mouthguards : hardness and shock absorption. J. Prosthet. Dent. 75: 463-471, 1996.

National

Kurdyk B., Morenas M., Buch D. Les différents alliages utilisés en prothèse adjointe partielle. Réal. Clin. 6 : 485-492, 1996.

El Mohtarim B., Deschaumes C., Morenas M. Prothèse adjointe et structure composite: intérêt des fibres de carbone. Cah Prothèse, 98: 19-23, 1997.

Deschaumes C., El Mohtarim B., Morenas M. Le titane coulé: vitesse de refroidissement et caractéristiques mécaniques. Cah Prothèse, 98 : 34-44, 1997.

N'Guessan N.S., Duval V., Morenas M. Prothèse adjointe et structure composite: adhésion PMMA-Fibres J. Biomat. Dent. 12 : 59-70, 1997.

Morenas M., Deschaumes C., Compagnon D. Prothèse fixée transitoire et biomatériaux: état actuel des connaissances. Cah Prothèse, 104 : 5-14, 1998.

Bitty M.-J, Deschaumes C., Rey P.D., D. Compagnon, E. Albuisson, Morenas M. Contribution à l'étude de la fiabilité des armatures en alliage base titane moulées au laboratoire de prothèse dentaire: approche du taux et de la localisation des porosités. J. Biomat. Dent. In press.

TEXTBOOK

Borel J-C., Schittly J., Exbrayat J. Manuel de Prothèse partielle Amovible . 2ème édition . Editions Masson, Paris, 1994.

GRANTS RECEIVED > 1000 Euros :

BQR 1996
BQR 1998

COMMUNICATIONS

International

Brionnet J.M., Roger V., Tubert S., Garson A. Comparative evaluation of rugby player's satisfaction toward bimaxillary custom-fitted mouthguards made with silicone or methyl-methacrylate. 76th General Session & Exhibition of the IADR, Nice (1998).

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National

Tridon A., Albuisson E., Dibet P., Morenas M., Deteix P. Etude de la chimioluminescence des leucocytes sanguins en présence de biomatériau. Forum GBM-Toulouse (1996).

N'Guessan K.S., Duval V., Morenas M.. Prothèse adjointe et structure composite: adhésion PMMA-Fibres**.** CFBD. Bruxelles (1997).

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vis de deux protections dento-maxillaires individuelles. 4ème Forum des Jeunes Chercheurs en Odontologie, Nancy (1997).

Bitty M.-J, Deschaumes C., Rey P.D., Morenas M. Contribution à l'étude de la fiabilité des armatures en alliage base titane moulées au laboratoire de prothèse dentaire. CFBD. Reims, (1998).

G. ORAL SURGERY, ORAL MEDECINE, ORAL PATHOLOGY

Representative : Pr Martine BAUDET-POMMEL e-mail: Martine.Baudet@u-clermont1.fr

G.1 TOPIC : **Sjogren's syndrome, Lichen**

PUBLICATIONS

International

Dubost JJ, Perrier S, Afane M, Viallard JL, Roux-Lombard P, Baudet-Pommel M, Begue C, Kemeny JL, Sauvezie B. IL-1 receptor antagonist in saliva; characterization in normal saliva and reduced concentration in Sjogren's syndrome (SS). Clin. Exp. Immunol. 106 (2):237-42, 1996.

Perrier S, Dubost JJ, Baudet-Pommel M., Sauvezie B. IL-1 RA in Sjogren's syndrome: gene polymorphism and serum level correlations with disease severity. Arthritis and Rheumatism. 4O sup 9: 206, 1997.

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Baudet-Pommel M., Sauvezie D., Perrier S., Sauvezie B. Perte dentaire chez des patients atteints d'un syndrome de gougerot Sjögren : corrélation avec des anomalies immunitaires. Medecine Buccale-Chirurgie buccale, 1: 7-15, 1997.

Bertoin P., Baudet-Pommel M. Les tumeurs métastatiques de la cavité buccale et des maxillaires. Actualités odonto-Stomatologiques : 200 : 733-745, 1997.

Baudet-Pommel M. Les lésions précancéreuses et cancéreuses de la muqueuse buccale : rôle du chirurgien dentsie. Quintescence du congrès ADF, 201-203, 1997.

Darcha C. , Orliaguet T., Pezet D.,Lointier P., Chiponni J.and Dechelotte P. Segmental agenesis of colonic muscularis. Annales de Pathologie.,17, (1) : 31-35,1997.

Reynaud P. , Orliaguet T., Robin Y.M., Buono J.P., and Dechelotte P. Mammary pilomatrixoma clinically mimicking carcinoma. Annales de Pathologie. 17 (3) : 31-33, 1997.

Deschaumes C., Baudet-Pommel M. A propos d'une image intrasinusienne. Info.Dent. 679-682, 1998.

Poiseau F., Baudet-Pommel M., Lescher J., Bertoin P. Pathologies buccales et prothèses adjointes : Peut-on et doit-on toujours appareiller? Act. Odonto-Stomatol. 204 : 453-465, 1998.

Baudet-Pommel M. Bertoin P. Le chirurgien dentiste dans la luttre anti-tabac. Chir.dent Fr.912 : 28-30.

Boyer, Raynaud P., Borel JF., Baudet-Pommel M. Tumeur mandibulaire : cas diagnostic. Annales anatomo-path. In press.

TEXTBOOKS

Bertoin P., Baudet-Pommel M., Zattara H., Gourmet R. Les lésions précancéreuses et cancéreuses de la muqueuse buccale. Masson. Paris, 1995

CHAPTERS IN BOOKS

Baudet-Pommel M, Maman L. Dermatologie. In Dictionnaire medical à l'usage du chirurgien dentiste. Masson, Paris, 1997.

GRANTS RECEIVED > 1000 Euros :

Rhône Poulenc Rorer
Abbott-France
Veyron-Froment

COMMUNICATIONS

International

Perrier S, Dubost JJ, Baudet-Pommel M., Sauvezie B. IL-1 RA in Sjogren's syndrome: gene polymorphism and serum level correlations with disease severity. National scientific Meeting of american college of rhumatology. Washington (1997).

National

Baudet-Pommel M., Borel JF. L'édentement complet maxillaire: les implants sont-ils justifiés? ADF. Paris (1996).

Robin Y.M., Raynaud P., Lemery D., Orliaguet T., Déchelotte P. Dysgénésie tubaire rénale et hypocalvaria. 8 èmes Journées Nationales de la Société Française de Foetopathologie. Briançon (1996).

Clemenson A., Buono J.P., Orliaguet T., Beaufrère A. M., Lemery D., Déchelotte P. Séquence "Obstruction Laryngo-Trachéale". 8 èmes Journées Nationales de la Société Française de Foetopathologie. Briançon (1996).

Bertoin P, Baudet-Pommel M. Localisations buccales des métastases. SFCB. Toulouse (1997).

Baudet-Pommel M. Les états précancéreux de la muqueuse buccale: manifestations et devenir. ADF. Paris (1997).

Baudet-Pommel M., Terestri P., Bertoin P. Le chirurgien dentiste face à une lésion suspecte de la muqueuse. ADF. Paris (1997).

Baudet-Pommel M. Implantologie : technique chirurgicale et complications osseuses. ADF. Paris (1997).

Baudet-Pommel M. Deschaumes C., Sauvezie B. Complications bucco-dentaires du syndrome de Gougerot-Sjogrën 28ème séminaire d'immuno-pathologie rhumatismale. Clermont-Fd (1998).

Maman L., Borel JF. Rôle du chirurgien dentiste face à l'infection dentaire. ADF. Paris (1998).

20.6 Higher Degrees awarded by the University of Auvergne-Clermont 1 or other French Universities for Projects supervised by Staff of the Faculty of Dentistry

DEA (Diplôme d'Etudes Approfondies : introduction to PhD)

De Chazeron I. Projections diencéphalic du sous-noyau oral du complexe esnsitf du trijumeau du rat : étude à l'aide d'une techniquie dec marquage antérograde (PHA-L). DEA neurosciences ParisVI-XI, 1997.

Lassauzay C. Étude de la varaibilité de la mastication à l'aide de produits de texture standardisée et controlée. DEA de nutrition et sciences des aliments. Clermont-Ferrand, 1998.

Blanc O. Effet de l'application et de la microinjection de NMDA au niveau du sous-noyau caudal sur des neurones a convergence du sous noyau oral. DEA de physiologie et genetique moléculaire. Clermont-Ferrand, 1998.

PhD Thesis

Duchatelard P. Elaboration, caractérisation et adhésion de revetements d'alumine sur polymere (PMMA). Clermont-Ferrand, 1996.

Dualé C. Mécanismes de transmission et de modulation des méssages nociceptifs au niveau du sous-noyau oral : approches électrophysiologique et comportmentale. Clermont-Ferrand, end 1999.

HDR (habilitation à diriger des recherches : enabling to manage a PhD Thesis)

Raboisson P. Nociception trigéminale : Approche électrophysiologique et comportementale. Mémoire HDR, Clermont-Ferrand, 1996.

Hennequin M. Mémoire HDR, Clermont-Ferrand, 1996.

Morenas M. Mémoire HDR, Clermont-Ferrand, 1996.

Roger V. Mémoire HDR, Clermont-Ferrand, 1996.

Mioche L.Perception buccale de la texture des aliments. Mémoire HDR, Clermont-Ferrand, 1998.

Luccarini P. Mémoire HDR, Clermont-Ferrand, end 1999.

Section 21 : Quality Development

Dr Maurice MORENAS, e-mail : Maurice.Morenas@u-clermont1.fr

Quality development is focused on :

- Education
- Research
- Dental care

21.1 Education

- based on "profiles of patients" and direct link between pre-clinical and clinical training
- evaluation of some courses by the students. Consequences and action recommendations are drawn
- Students clinical performance is monitored as previously described by clinical credit points and competences.
- Socrates exchanges with Dundee (Scotland) and Roma-Chieti (Italy)
- DENTED Site Visit
- Consultation with recent graduates (the six last years) as to their perceptions of the relevance of the different courses to post graduate practice
- Two of our teachers have attended training in education in Health sciences

21.2 Research

- Elective course : "Introduction to research"
- Continuous development of the Oro-Facial Physiology Lab with :
    - An involvement in the pain pole actually developed in the University Hospital
    - An active international cooperation in Europe and with Canada (Toronto and Montréal)
- International workshops, conferences, symposia …

21.3 Dental care

- Quality management in dental care (The handbook given to students when they begin clinical work, is joined to the documents sent to Dented Visitors)
- Quality management in regard of hygiene (grid of evaluation present in the handbook cited above)
- Assessment of the patient satisfaction (A study was made in 1996 in the hospital service and is joined to the documents sent to Dented Visitors)

21.4 Plans for Future Changes

- Assay to develop an Objective Structured Clinical Examination at the end of the curriculum to assess not only clinical skills but also communications and attitudes.
- Development of methods to measure cognitive processing

Section 22 : Overall Comments on the School

Dr Maurice MORENAS, e-mail : Maurice.Morenas@u-clermont1.fr

Strengths

Weaknesses

Innovations and Best Practices

Plans for Future Changes

See Section 1, Topics 1.3

DentEd Site Visitation

Faculty of Dentistry

University of Auvergne-Clermont I

Clermont-Ferrand

France

Part II

Visitors Comments

Written report of the DentEd Site Visit

Faculty of Dentistry, University of Auvergne-Clermont I, Clermont-Ferrand, France

April 24 – 28, 1999

Visitors

Professor Gottfried Schmalz,	Germany,	(Chairman)
Assoc. Professor Kerstin Petersson,	Sweden,	(Rapporteur)
Assoc. Professor Gérard Lévy,	France	
Professor Alphons Plasschaert,	The Netherlands	
Professor Michael Reed,	USA	

Prologue

The visitors wish to express thanks to Dean Maurice Morenas and the staff and students of the Faculty of Dental Surgery for their courtesy and willingness to participate so fully in the Site Visit process. Special thanks to the organising committee for the excellent planning and organisation of this site visit. We were impressed by the overall quality of the teaching, research and patient care programs at Clermont-Ferrand and congratulate you on your achievements. In particular we were impressed with the innovative efforts in curriculum development, the quality of the research in the area selected for emphasis and in the delivery of patient care, especially the efforts in prevention and patient care fore those with special needs.

Each of us would like to believe that our own institutions would be so well perceived by a group of international visitors. And yet, as always, we have made observations, which we believe can be the basis of even further improvements and hope that you place our comments in the context of your very fine program.

In our written report we have chosen to use the same structure as in the document produced by you, for this Site Visit.

1. Introduction

1.1 Administrative issues

The French system of dental schools is characterised by its separation between the University and the Hospital (clinic). The organisation is strongly centralised nationally with a budget system that

seems to be complicated and to have limited flexibility. The centralisation is also reflected in the fact that senior teaching staff are selected by a national commission.

Recommendation: In order to both enhance flexibility and to consider the needs of the local faculty, a more decentralised approach is strongly recommended. This would allow for each faculty to develop according to local needs.

1.2. Curriculum in general

Presently, the curriculum is based on the contact time between the student and the teacher/patient. However, this does not take into consideration that the students are required to work by themselves, e.g. by preparing seminars and by working in the library.

Recommendation: The curriculum should be defined in terms of student working hours for example by the system called ECTS. The use of this system will facilitate the comparisons with other European Dental Schools as well as exchange programs and the curriculum will be more student-centered.

The French selection procedure with all students accepted at the first year, after which an examination (organised by the University) takes place that allows the best students to choose between medicine and dentistry, might create some problems with student motivation. This is indicated by only one third of the students in dentistry taking dentistry as their first choice.

Recommendation: The selection system should be re-arranged so that the priorities of the students are more respected and more information on dentistry should be provided during the first year.

In France a 6th year will be introduced in all undergraduate curricula 1999-2000. The main reason for this change is to give the students opportunity to gain further clinical experience. However, no further financial support has been provided by the state. The year is supposed to be devoted to a thesis (350 h) and to clinical work (650 h). In Clermont-Ferrand there is a problem with availability of clinical units for the clinical work. The visitors feel that the dental faculty of CF has addressed the problem thoroughly and have tried to find a solution. However, there exist no practical experience so far. Therefore, the problem should be re-evaluated after practical experience.

The active clinical work starts earlier in Clermont-Ferrand than in other French faculties. Yet, the start in D3 with treatment of uncomplicated periodontal disorders (scaling) and full denture treatment is rather late compared to several other European dental curricula.

Recommendation: To begin clinical work in P2, with a program in clinical preventive dentistry. The visitors congratulate the faculty in Clermont-Ferrand on the initiative to include prevention in the curriculum. However, we think that preventive dentistry should be taught not only in a single course, but should be the backbone of the whole curriculum. The stimulation of the students to develop a preventive attitude in their delivery of dental care, will in the long run influence French dentistry to be more preventive oriented, which will be beneficial for the oral health of the population.

2. Facilities

The overall impression by the visitors is that the facilities available in Clermont-Ferrand are modern, well kept and the interior is beautifully designed. However we made some observations that we would like to comment upon.

2.1. Clinical and preclinical facilities

Strengths: The clinics are situated close to the preclinical and other teaching facilities. The equipment has a good standard. The technical standard of the units seems acceptable as well as the general level of maintenance. The university has supplied all instruments for clinical work since 1999, however not for the practical preclinical work.

Weaknesses: Dental units mainly allow for only one student to treat without assistance, which is inefficient and may be a hazard to cross infection control. The number of dental chair units seems limited for the anticipated aims of the curriculum with an increased patient contact time and a 6th year. The area with 8 dental units for the faculty intramural clinic seems small for its purposes.

Practical preclinical education in oral radiology is performed with the students as training subjects. However, this might violate radiation safety regulations. The equipment for radiographic examination in the clinic seems unsatisfactory in that the x-ray machines lack long rectangular collimators and there are two x-ray machines in one room without radioprotective separation. Also a radioprotection screen for the operator is not used during exposures.

Recommendation: At least for certain treatments in the student clinic, a four handed approach should be introduced, one student being the dentist, the other the assistant. Some rearrangements of the facilities appear necessary and may not be too complicated.

One idea from the site visitors, which would increase the number of clinical chairs available, was to consider the refurbishment of one of the preclinical labs into a clinic by installing clinical units, which could be combined with phantomhead equipment, in order to be flexible.

The use of specially designed manikins for the practical preclinical training of oral radiographic procedures is recommended. If the students practice radiographic examination on themselves, these examinations should be combined with clinical examinations and records should be kept.

The x-ray machines should be complemented with long rectangular collimators. The procedures for taking x-rays should be checked to be in accordance with radioprotection regulations.

2.2 Other facilities

Strengths: The IT-equipment is extensive and available for students from 8.00 to 19.00 hours. The main theatre is excellent, the same is true for the other smaller lecture rooms. Space and equipment for research activities seems to be adequate.

Weaknesses: The library seems adequate in space, however, the scientific journals in English seem sparse and the number and variety of textbooks seem limited.

Recommendations: To increase the number of textbooks and to use more textbooks in original language, mainly English. The subscription of more scientific journals in English is recommended.

3. Administration and Organisation

The visitors find the administration and organisation quite adequate and have only one comment. We understand that there is a vice-dean for curriculum affairs and a corresponding commission.

Recommendation: We recommend this curriculum commission meets regularly, perhaps monthly, especially as the new curriculum develops and the sixth year curriculum evolves.

4. Staff

We were impressed by the ratio of students to teachers of 4:1 in the clinic and 6-8:1 in the practical preclinical settings. The programs in Oral Surgery and Prevention/Public Health/Epidemiology/Health Economics are strong and well developed, but these are essentially one-person departments. Although the leaders in these programs are extremely well qualified, it is difficult to preserve continuity in a department with only one person.

The relation of a total of 8 full time academic staff to a large group of part time academic/clinical staff creates several problems. For example: To bring all the staff together regularly to keep up with and develop academic and educational concepts.

Recommendation: We recommend the faculty try to maintain structured clinical and educational development programs over a prolonged period. We also recommend the appointment of additional full-time faculty in oral surgery and prevention/public health as soon as possible.

5 - 16. Curriculum

General Comments

We fully support all initiatives taken by the faculty to move from a strongly lecture based curriculum to one which emphasises more active participation of the students.

Strengths: Phantom head (preclinical) and clinical work are integrated in some of the modules, which is novel and very positive. The integration of basic sciences into the clinical part of the curriculum is an important strength. However, the visitors would suggest looking for further integration and co-ordination of the basic sciences in P1 and P2, where there seems to be some

redundancy. We also suggest the integration of clinic into P2, for example preventive dentistry, and to continue this clinic without interruptions throughout the curriculum.
Teaching in a seminar like style, the way it is done in radiology, periodontology and public health, with the students working on different tasks and later reporting their knowledge and conclusions to their fellow students at seminars, is very positive. The visitors recommend that faculty support and further enhance this type of educational approach.

Weaknesses: The students do not buy their own textbooks. They use those from the library but mainly texts that are selected or written by the teachers. This could lead to limitations on the acquisition of broader perspectives.

At examinations, MCQ assessment seems to be the dominating method. This method may emphasise the recapitulation of facts.

The amount of time devoted to the demonstration of instruments seems to be extensive. The same objective can be met, using less curriculum time, by using a more self studying approach.

Recommendations: The visitors support assessment methods that test reasoning and conceptual thinking. For example using the existing evaluation grid, with predetermined criteria, for the students to assess themselves could further enhance the amount of self-assessment. The faculty could then evaluate this.

The visitors recommend the faculty and the curriculum commission to substantially cut down the number of hours devoted to the demonstration of instruments and other similar procedures, such as some of the practical preclinical course in P2.

Specific comments

5. The Biological Sciences
In this section Biochemistry, Physiology, Biophysics and Genetics are included. Specific comments are not needed.

6. Preclinical Sciences
This section includes only Anatomy and there are some specific comments. If dissections are not possible, corresponding human preparations should be available for demonstration purposes. Time spent for dental anatomy (waxing up) might be reviewed in respect to its effectiveness to meet the given objectives (clinical application).

7. Para-Clinical sciences
This section includes Pharmacology, General Microbiology, The Healthy Oral Ecosystem and General Pathology. Specific comments are not needed.

8. Human diseases
This section includes Human Diseases and Anaesthesiology & Resuscitation. Specific comments are not needed.

9. Orthodontics and Child Dental Health
This section includes Orthodontics and Child Dental Health and the visitors have the following comments: In Orthodontics the number of lecture hours seems excessive and we support the initiative to replace part of the lectures by other learning experiences stimulating active participation. In Pedodontics, co-operation between pediatric dentistry and the department of

public health should be intensified, so that there is a common, synergistic and strong approach to prevention.

10. Public Dental Health and Prevention

This section includes Health Economics, Epidemiology and Prevention. Some general comments have already been given. The main specific comment is that Prevention should be included also in Pediatric Dentistry, Periodontology and Cariology, through a co-operative faculty effort.

11. Restorative Dentistry

This section includes Conservative Dentistry, Endodontics, Prosthodontics, Occlusion and Function of the Masticatory System. Specifically, we want to make positive comments on some innovative ideas like the instructive computer programs for clinical procedures in Conservative Dentistry and the use of an evaluation grid with predetermined criteria, which easily can be used for self-assessment. We were also pleased to observe that there is a course on Occlusion and Function of the Masticatory System to be implemented next year. The education in implants seems advanced and is an example of good teamwork.

12. Periodontology

This section includes only periodontology. The role of periodontology within the curriculum is adequate and well appreciated by the visitors. However, the preventive and epidemiological aspects of periodontal disease could be strengthened.

13. Oral Surgery, Dental Radiography and Radiology

This section includes Oral Surgery and Dental Radiography & Radiology. For Dental Radiology some general comments are given above. A specific comment is that the educational methods in Dental Radiography seem to be innovative and to be of high quality.

14. Oral Medicine and Oral Pathology

This section includes Oral Medicine and Oral Pathology. No specific comments are needed.

15. Integrated Patient Care, Dental Emergencies and Special Needs Patients.

This section includes Integrated Patient Care, Dental Emergencies and the Care of Special Needs Patients and we would like to give some specific comments. Integrated patient care is important as it represents the core of patient care in the clinic. It takes place in years D2 and D3 with conservative dentistry, prosthodontics, oral surgery, pedodontics, periodontics among others having practical/clinical part in the module. This seems to be a successful enterprise and is positively evaluated by the visitation group.

Dental emergencies are taken care of with a comprehensive approach. This should be further followed and enhanced. The visitors were impressed by the comprehensive approach of pain-treatment, covering pain in all its aspects and in good co-operation with the relevant medical departments. This includes treatment, prevention and research.

As for the treatment of handicapped persons the visitors were impressed by the comprehensive approach including prevention, treatment, research and public dental health care. We support the concerns expressed by the involved team that the full potential of this program can be developed only if additional financial and other resources are provided.

16. Behavioural sciences

This section includes Behavioural Sciences and Communication, Ethics and Jurisprudence, Practice Management and English Language. The visitors would like to comment on the English language course. The idea for a foreign language course, as implemented by law, is excellent and the choice of English by the faculty in Clermont-Ferrand is wise, since it enhanced access to a broad source of dental literature.

17. Examinations, Assessments and Competencies

17.1. Examinations and Assessments

Strengths: In Restorative Dentistry the methods for assessment of clinical skills seems well developed and innovative. Furthermore we are pleased that a final examination has been implemented and strongly support inclusion of the Objective Structured Clinical Examination.

Weaknesses: Like in other places, the committee noticed that there is little self-assessment and we encourage further development. Much emphasis is placed on multiple-choice evaluation, a method that mainly emphasises the reproduction of facts, which may be detrimental to understanding and in depth learning.

Recommendation: We recommend the faculty to consider a further development of self-assessments. For example the existing grids for evaluation of clinical skills in restorative dentistry can be used for self-assessment in that the students use the predetermined criteria to assess themselves, followed by a feed-back from the teachers.

In addition to the multiple-choice evaluation, we recommend use of other methods of examinations by which the understanding and reasoning skills of the students are assessed.

17.2 Competencies

A survey among the students was completed during the site-visit. The results indicate that the students feel competent in most areas. Exceptions were in certain surgical areas, like third molar surgery, and orthodontic treatment. However, this is in accordance with the visitors' experience in their own and in other dental schools.

18. Other Influences

In addition to the general comments already given in *1.2. Curriculum in general* on student selection procedures, the visitors support the use of Evidence Based Dentistry in the clinic.

19. Student Affairs

The visitors found a good atmosphere amongst the students and they were open-minded and interested. In our meeting with the students they expressed wanting to have more practical/clinical training and earlier contact with the patients. The students also wanted to have more information on recent technologies, e.g. implants, complex prosthodontic treatments, advanced periodontic treatments and third molar surgery. The visitors comment that these issues are rather advanced and not many dental schools have the opportunity to include them in the undergraduate curriculum. Professional dentists have to learn new concepts and develop themselves throughout life. This strongly emphasises that the most important skills learned in the university are to learn how to learn and to think critically.

Other complaints from the students were lack of pedo-clinics (maybe due to the fact that the curriculum has been rearranged and that therefore the students had had no contact so far) and overlapping in basic sciences on P1 and P2. The visitors agree. The faculty has made a great effort to integrate basic sciences teaching with the clinic. However, both the students and the visitors thought that this could be developed further. The students do course and teacher evaluation, but they express a feeling that their comments have little impact.

Recommendations: The faculty should continue the efforts to integrate basic science teaching with the clinic and try to avoid overlapping.

The students should, on a yearly basis, be informed of changes made in the curriculum based on their course and teacher evaluations.

20. Research and Publications

The faculty recognises the importance of research for a dental faculty, this is strongly supported by the visitors. Research is centred on five specific areas, which is a good strategy for a small faculty. In these areas the results are exceptional and published to a large extend in peer-reviewed journals.

21. Quality Development

The semester system experienced in Clermont-Ferrand should be continued because it favours flexibility. Exchange with foreign countries/ faculties is well developed (USA, Italy, Scotland, and Canada) and the visitors appreciate this. These efforts should be further encouraged.

Research is highly specialised which reflects the limited financial resources. The senior teachers wish to participate in more clinical research, but additional financial resources will be necessary.

Competence development programs for teachers are informal and the senior teachers wish to have a more structured approach. The visitors agree. A faculty member has been appointed to

intensify the offers of the dental faculty in respect to continuing education. A Web page has been installed.

Recommendation: The visitors want to recommend further development of the excellent approach to continuing education in collaboration with regional dental professionals.

The methods for cross infection control in the clinic meet current standards and are constantly monitored together with the hygiene department of the hospital. However there is some need for further development (e.g. not wearing jewellery and watches). Four-handed dentistry is not taught, but apparently is not used in dental practice in France.

Recommendations: The visitors strongly suggest the faculty and the hospital to consider the four-handed dentistry concept, since the monitoring of cross infection control is difficult in two handed dentistry. Furthermore four-handed dentistry increases the efficiency in dental practice.

22. Overall Comments on the School

Strengts: As mentioned above we were impressed by the innovative efforts in curriculum development, the quality of the research in the areas selected for emphasis and in the delivery of patient care especially the efforts in prevention. The visitors found a good atmosphere amongst the students and they were open-minded and interested. The choice of English for the foreign language course is excellent, since it affords the students direct access to the scientific world of dentistry. The clinics are situated closely together with preclinical and other teaching facilities, which facilitates integration.

Weaknesses: The time devoted to practical phantomhead courses appears to be excessive at the expense of the clinical practice experience. The faculty has made great efforts to introduce preventive dentistry in the curriculum, yet it does not seem to sufficiently influence all clinical areas. The domination of two-handed dentistry in the student clinic may be a problem for cross infection control. In the library the number of scientific journals in English seem sparse and the number and variety of textbooks is limited.

Summary of Recommendations for Future Changes:

- In order to both enhance flexibility and to consider the needs of the local faculty, a more decentralised approach is strongly recommended. This would allow for each faculty to develop according to local needs.

- The curriculum should be defined in terms of student working hours for example by the system called ECTS. The use of this system will facilitate the comparisons with other European Dental Schools as well as exchange programs and the curriculum will be more student-centred.

- The selection system should be re-arranged so that the priorities of the students are more respected and more information on dentistry should be provided during the first year.

- We recommend beginning clinical work in P2, with a program in clinical preventive dentistry. We also think that preventive dentistry should be taught not only in a single course, but should be the backbone of the whole curriculum.

- One idea from the site visitors, which would increase the number of clinical chairs available, was to consider the refurbishment of one of the preclinical labs into a clinic by installing clinical units, which could be combined with phantomhead equipment, in order to be flexible.

- The use of specially designed manikins for the practical preclinical training of oral radiographic procedures is recommended. If the students practice radiographic examination on themselves, these examinations should be combined with clinical examinations and records should be kept.

- The x-ray machines should be complemented with long rectangular collimators. The procedures for taking x-rays should be checked to be in accordance with radioprotection regulations.

- We recommend the faculty to increase the number of textbooks and to use more textbooks in original language, mainly English. Also the subscription of more scientific journals in English is recommended.

- The curriculum commission should meet regularly, perhaps monthly, especially as the new curriculum develops and the sixth year curriculum evolves.

- We recommend the faculty try to maintain structured clinical and educational development programs over a prolonged period.

- The appointment of additional full-time faculty in oral surgery and prevention/public health should be considered.

- We fully support all initiatives taken by the faculty to move from a strongly lecture based curriculum to one which emphasises more active participation of the students.

- The visitors support assessment methods that test reasoning and conceptual thinking.

- The visitors recommend the faculty and the curriculum commission to substantially cut down the number of hours devoted to the demonstration of instruments and other similar procedures, such as some of the practical preclinical course in P2.

- If dissections are not possible in Anatomy, corresponding human preparations should be available for demonstration purposes.

- Through a co-operative faculty effort prevention should be included in Periodontology and Cariology and epidemiological aspects of caries and periodontal disease could be strengthened.

- In Pedodontics, co-operation between pediatric dentistry and the department of public health should be intensified, so that there is a common, synergistic and strong approach to prevention.

- In Orthodontics the number of lecture hours seems excessive and we support the initiative to replace part of the lectures by other learning experiences stimulating active participation.

- Dental emergencies are taken care of with a comprehensive approach. This should be further followed and enhanced.

- As for the treatment of handicapped persons the visitors were impressed by the comprehensive approach including prevention, treatment, research and public dental health care. We support the concerns expressed by the involved team that the full potential of this program can be developed only if additional financial and other resources are provided.

- The visitors strongly suggest the faculty and the hospital to consider the four-handed dentistry concept.

- In addition to the multiple-choice evaluation, we recommend use of other methods of examinations by which the understanding and reasoning skills of the students are assessed.

- We recommend the faculty to consider a further development of self-assessments.

- The faculty should continue the efforts to integrate basic science teaching with the clinic and try to avoid overlapping.

- The students should, on a yearly basis, be informed of changes made in the curriculum based on their course and teacher evaluations.

- The visitors want to recommend further development of the excellent approach to continuing education in collaboration with regional dental professionals.