



# XVII ANNUAL NATIONAL DENTAL RESEARCH MEETING COLOMBIAN ASSOCIATION OF DENTAL SCHOOLS - ACFO -

## I COLOMBIAN SECTION INTERNATIONAL ASSOCIATION FOR DENTAL RESEARCH MEETING

Universidad Santo Tomás

Bucaramanga, Colombia

14 al 16 de septiembre de 2006



ABSTRACTS

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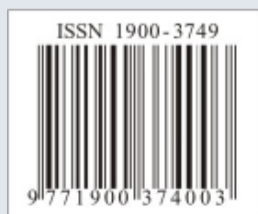
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# EDITORIAL

Este año la Asociación Colombiana de Facultades de Odontología (ACFO) cumple 45 años de fundada, mirando atrás con satisfacción y visualizando el futuro con optimismo en busca de la excelencia académica, investigativa y de servicios odontológicos en el país.

La ACFO ha tenido históricamente entre sus metas el fortalecimiento de sus asociados y la aglutinación de todas las facultades de odontología del país, por eso es un placer para la División de Investigación darle la bienvenida a todas las facultades y en especial a los nuevos asociados, que creyendo en los principios de la ACFO, inician su participación activa para el beneficio de todos.

La División de Investigación realiza este año la XVII versión del Encuentro Nacional de Investigación Odontológica, habiendo realizado en los últimos años, cuatro convocatorias bianuales Latinoamericanas de investigación de forma simultánea con los encuentros, eventos en los cuales se ha logrado madurar la investigación, consolidar grupos, apoyar trabajos multicéntricos, promover redes, facilitar la movilidad de los investigadores y divulgar la investigación odontológica.

Este año de manera especial se realiza simultáneamente con el XVII Encuentro de Investigación, la I Reunión de la International Association of Dental Research de la sección Colombiana de IADR, como una alianza estratégica que permita consolidar la investigación con proyección internacional.

Es importante resaltar el liderazgo de la División de Investigación de ACFO, para lograr consolidar la creación de la Sección Colombia de la International Association for Dental Research una vez superadas múltiples dificultades, pero con el norte en la apertura de puertas internacionales para la divulgación y cualificación de la labor investigativa de la odontología colombiana.

De otro lado este año se realiza el II Encuentro de Semilleros, pues es en ellos en donde extracurricularmente se confabulan con la investigación y en donde se empiezan a arraigar los sueños de un investigador.

Hemos estado comprometidos con la construcción de la memoria escrita durante todos los encuentros y desde el 2004 se ha incursionado en la elaboración de las Memorias en CDs de los resúmenes en español e inglés de todos los trabajos presentados. Este año, se ha tenido un acercamiento al formato internacional de presentación de abstracts y con el objetivo de lograr mayor visibilidad, hemos colocado las tres últimas memorias de los encuentros respectivos en la página de la Asociación ACFO [www.acfo.edu.co](http://www.acfo.edu.co), lo que permitirá permanentemente una mayor y mas amplia posibilidad de consulta, bajo el principio de darle crédito a los autores.

Norberto Calvo Ramírez

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# 1

## BASIC SCIENCES



## ABSTRACT

**Background:**The use of platelet-rich plasma (PRP) involves growth factors that are proposed as enhancers of tissue regeneration of the periodontal tissues.**Objectives:**The purpose of the study was to evaluate the response of periodontal fibroblasts (PF) at different concentration of platelet rich plasma *in vitro*.**Materials and Methods:**Cellular cultures of PF were obtained from In Vitro Research Center and PRP was get from the Hemocentro of the Red Cross, and dilutions were made to obtain concentrations to 10, 15 and 20%. They were compared with 2 controls of 5% bovine fetal serum (BFS) and fibroblastic growth factor (FGF). In order to determine the metabolic activity of the FP stimulated by PRP, XTT® kit was used.**Results:**Findings suggest that a higher concentration of PRP results in positive effects on cellular growth and significantly increase in proliferation of FP at concentration of 20%.**Conclusions:**PRP resulted in positive effects on periodontal fibroblasts

**KEY WORDS:** Growth factor, platelet –derived growth factor, periodontal ligament, fibroblasts, guided tissue regeneration, platelet rich plasma, healing.

## ABSTRACT

**Background:** *Streptococcus mutans* is the microorganism related with cariogenic processes playing an important roll in the beginning of the demineralization stage. It is not always isolated before the development of the lesions, but can be isolated in caries free zones. Epidemiologic studies show a significant correlation between bacterial content in dental plaque/saliva, and prevalence/ incidence of caries. **Objective:** microorganisms can develop genetic variations which in turn increase their pathogenic capacity, this study focuses on establishing the differences at molecular level between strains of *Streptococcus mutans* isolated from people with and without caries, as a way to increase the knowledge of the microorganism's molecular characteristics using AP-PCR (arbitrarily primed PCR). **Materials and Methods:**The study included 120 children between 3 and 5 years of age (75 with and 45 without caries), who attended a Kinder Garden facility in Bogotá. In 15 of the 45 healthy patients and 31 of the 75 caries patients, *S. mutans* was isolated with a frequency of 33.3% and 41.33% respectively. In the 15 positive healthy individuals, 24 strains were isolated, whereas in the 31 positive caries individuals 45 strains were isolated. **Results** The *S. mutans* bio-typification showed 36 different biotypes; 22 for the caries group and 15 of the healthy group. 1 biotype (XX) was shared by the two groups. By means of the AP-PCR technique 27 different profiles were identified; 4 genomic tracks were found in both groups, confirming the great genetic variability.

**KEY WORDS:** Streptococcus mutans, Caries, AP – PCR (arbitrarily primed PCR), biotipification, fingerprinting.

## ABSTRACT

Calcium phosphates are the most used biomaterials to hard tissues replacement, specially the hidroxiapatite, being the compound most similar to human hard weaves and to present biocompatibility, bioactivity and conductivity with the new tissue. The calcified tissues (bone, dentine and dental enamel) have an organic part and another mineral part, that they are different from a tissue to other one. The dentine mineral content is 70% while, in the dental enamel is 96%. This content is comparable with the one of a non stoichiometric hidroxiapatite with different ion substitutions: Mg 2+, Na +, K+, CO 3 2, HPO 4 2or F -, or vacancies (crystalline defects). The main of this paper is to show a preliminary study, using two biomimetic bioceramics, (QCP1 and QCP2), to determine its interaction capacity with the alive tissues to produce a possible dentinal regeneration in direct pulpar coverings. Pulpar coverings with new synthesized materials had been done on Wistar rat teeth and they were compared, like a control with calcium hydroxide coverings. Acute and chronic answers had been evaluated at a week to three months after them implantation. *Results:* one of bioceramics presented a 100% of biocompatibility in the acute evaluation and good neoformed tertiary dentine homogeneity and density and a possible organization of the dentinal tubules, additionally. Also this biocermic showed a true integration with the already existing dentine.

## ABSTRACT

Abfraction lesions imply tissue loss, reason for which they display surface alterations which affect the mechanical properties and adhesion processes. The purpose of this study was to analyze the findings on the teeth's surface with abfraction lesions and compare with their replicas through Scanning Electronic Microscopy (SEM). Two samples were taken with clinically characteristic abfraction lesions, a premolar and lateral inferior were cleaned up and one was etched with phosphoric acid at 37.5% for five seconds on the lesion site, and later washed and dried. Impressions were then taken with addition silicone and they were emptied with a low viscosity epoxic system. The two specimens and their corresponding replicas were analyzed with the steromicroscope and SEM. The results showed that a similarity was found between the observed findings and in their replicas. The observation of the specimens by the steromicroscope and the vestibular enamel surface evidenced the presence of cracks and fissures vertically oriented which emerge mainly from the wear facet. Through SEM it was observed that the layer of enamel prisms thins towards the neck and are placed horizontally and in a disorganized fashion. The dentin showed a highly disorganized tissue with the presence of obliteration of tubuli in the lesion surroundings. The epoxic resin is an optimal material for the making of replicas due to the fact that very similar images were obtained between the specimen and its corresponding replica and it can be recommended as a clinical follow-up method of the lesions and their restorations.

## ABSTRACT

**Principio del formulario** The intraoral perforations have increased their popularity in the last years in the population, as expression of a life form. Nevertheless, these additions have affected the health of the oral cavity. The objective of the study was to establish the alterations that produce piercings and accessories in oral cavity, in population of 18 to 30 years of age in the city of Bogotá, during 2005 and 2006; determining the age, sort, time and the permanence or absence of the accessory and establishing the material, more representative type of jewel in this type of population. A sample was taken from 100 patients, who had perforations and accessories in their mouth, to which a survey was applied to them, to determine the alterations produced by these additions in its oral weaves. Data were processed in SPSS program version 12 and an analysis of frequency allocation with a Chi square test at a level of significance of  $p < 0,005$  was made. The results were as follow: According to the zones of location of piercing, 70% of the patients reported the perforation in the tongue, 50% in lip, 14% in frenulum lingual and 1% in cheek. The addition that most frequently appear was piercing type sweeps elaborated in nickel. The habits that appeared most frequently were game with the jewel, followed to smoke and to consume alcohol, the elements of oral hygiene that reported to use were tooth paste, brush, rinsing and dental silk. The alterations that most frequently appeared were inflammation, pain and infection which were referred by the surveyed patients lasting maximum of three months in the great majority of them. The main observed characteristics were dental fracture, gingival recession and erytema.

**KEY WORDS:** Piercing, dental fracture, gingival recession, jewel.

## ABSTRACT

**Introduction.** It is well known that some antigens of periodontopathic bacteria such as lipopolysaccharides produced by *Porphyromonas gingivalis* may induce vascular alterations in the target organ. It is very difficult to evaluate this antigen in blood during bacteremia because of the lack of an accurate laboratory test. **Materials and Methods.** *P. gingivalis* LPS were extracted and purified by chromatography, inoculated in mice and eight hybridomas were derived. Antibodies were characterized by immunoblot and ELISA, and then used to quantify *P. gingivalis* LPS in subgingival plaque and plasma of periodontitis patients subjected to a scaling and root planning procedure using this laboratory test. **Results:** Most patients were highly positive to *P. gingivalis* LPS in subgingival plaque. *P. gingivalis* LPS were detected in plasma in 50% of patients after the scaling and root planning treatment. *P. gingivalis* LPS were also observed before treatment in 35% of the patients. **Conclusions:** These findings may support the evidence of endotoxemia in periodontitis patients. The monoclonal antibodies produced against *P. gingivalis* LPS will allow future work on the relationship between periodontal infection and cardiovascular disease and pregnancy.

**KEY WORDS:** Periodontitis, monoclonal antibodies, Lipopolysaccharides.

# 2

## EPIDEMIOLOGY

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## ABSTRACT

The intention of this investigation was to determine the existing relation between some external factors and the prevail of alterations in the amelogenesis in the scholar population between 6 and 12 years of district Cantaclaro of Montería. Was made an analytical study of cohort and by means of a simple random sampling of 173 children of both genders studied. the prevail of alterations was determineted by intraoral clinical examination and related the occurrence of these diseases to some factors like antecedents of exhibition of the mother to plague substances, consumed type of water and antibiotic consumption and antecedents of local fluor. The findings of this investigation shows a prevail of 75,7% of alterations in the amelogénesis in the studied population being affected female sex with 80,0%. By groups of age children of 7 years of age in 87.55 and by groups of teeth, incisors and first molars, 54,8% and 37.6%; was no found statistically significant associations at a level of 0,05 with any of the studied, but the prevail is warning from the alterations.

**KEY WORDS:** Amelogenesis, Hypoplasia, Fluorosis of the enamel

## ABSTRACT

**Objective:** To define the efficacy of a program in health promotion and prevention of gingival disease in the students of San Agustín Vocational School at Manizales city. **Materials and methods:** A blind quasi-experimental study in the population of a primary school institution was carried out. The population consisted of 256 students from which 180 were selected for the experimental and control groups. A simple random sampling with a reliability level of 95% and a sampling error of 6% were made. An educational program in the experimental group was implemented and it was compared with the control group at the start, after four and after eight months of its implementation. Van Palestein Herlderma's soft plaque and gingival condition index were used to assess the effectiveness of the program. **Results:** A correlation between the gingival condition and plaque index was observed at the three moments of the study. The one-way variance analysis showed significant differences for both the soft plaque index ( $F=3.29$ ,  $p=0.039$ ) and for the gingival condition ( $F=3.114$ ,  $p=0.046$ ) when the corresponding averages among the three moments were compared. Significant differences were also found in the experimental group between the initial and the intermediate moment when applying the t test, for both the soft plaque index ( $p=0.009$ ) and for the gingival condition ( $p=0.012$ ), but no significant differences were found in the control group. **Conclusions:** The efficacy of the oral health educational program was demonstrated.

**KEY WORDS:** Educational program, Soft plaque, Efficacy, Oral hygiene, Gingivitis



## ABSTRACT

The aim of this study was to evaluate the association between physical functional capacity (PFC) with oral condition (OC) in the elderly. An analytical observacional cross sectional study was made. The universe was constituted by 101 patients and the sample by 68 elderly, who fulfilled the inclusion criteria. The variables of the study were social-demographic factors; general health, the CO, the CFF, mental state, the social supports. In the analysis, summary measures were calculated according to the nature of each variable. Analysis of factors was made to determine the attributes that integrated CO. The CO variable was related to each other variables by  $\chi^2$  and Fisher's exact test, the crude OR and intervals of confidence were calculated. Logistic regression analysis and methods of correction of the OR were applied and the RR were obtained, and the goodness of fit of the model was evaluated. The deterioration of the functional physical conditioning and the mental state were associated with a bad oral condition with RR 3.63 IC95% (0.98-1.82) and 6.84 IC95% (1.38-2.32). The deterioration of the motor skills and mental condition will affected the essential abilities for the life, including these to help to preserve a good oral health. The promotion and the prevention programs to protect the bucodental condition for the elderly have including the evaluation of these subjects.

**KEY WORDS:** Elderly, Oral Health, Functional Physical Capacity

## ABSTRACT

**Objective:** To design a database that allows students, educational and directive staff, for consulting the grade works carried out in the Faculty of Dentistry of the University El Bosque. **Materials and Methods:** A model of the fields was designed that should contain the Database. Later on it was located and it organized the information of the papers (tesis) elaborated by the students of Dentistry of the University El Bosque during the years 2003 and 2004 (40 of undergraduate and 44 of postgraduate). It was created the Database in MySQL called "THESIS FIND", keeping in mind the designed fields. The information was added and put into practice to realize the search strategies. **Results:** It was 37 in undergraduate papers (92.5%) and 41 post-graduate (92.5%). The papers that presented summary, abstract, scientific articles and full text in magnetic format, statistical and methodological advise and knowledge areas were analyzed and expressed with those were related. In Postgrade it was analyzed the specific program that were represented additionally.

**KEY WORDS:** Database, Works of Grade, Thesis Find, Win Isis.

## ABSTRACT

**OBJECTIVE:** To measure and evaluate plasma creatinine and proteinuria in 5-7 year old school children, living in an urban and rural community in Sogamoso, Colombia. The town of Sogamoso is supplied with water from a neighbouring lake (Tota) in which the fluoride concentration is 0.42 mg/l. In Colombia fluorated salt has been added since 1989 (180-220 F mg /salt Kg) **METHODS:** 46 children from Sogamoso (mean 6.38 years old) had been detected as having high levels of fluoride excretion; 1.2mg/24 hrs (+/-0.18) in a previous study. They were tested for plasma creatinine levels and urinary protein excretion, with previous parents consent. Fasting plasma creatinine levels were taken, with a sample between 3-5 ml analyzed by the Human™ test. The concentration of protein was analyzed from a sample of 100 ml of excreted urine and proteinuria was measured by the Albor™ test. The samples from each child were frozen for transportation prior to analysis in the Dental Research Centre (CIO). **RESULTS:** It was found that the mean value for plasma creatinine was 0.78 mg/dl (+/-0.21), being normal for the Human® test 0.5 – 1.2 mg/dl. In addition most of the children (97.82%) had a plasma creatinine within the normal range, only one patient (2.04%) presented a higher level. The excreted protein found in the urine was considered within normal limits for an individual at this age at 6.01mg/dl (+/-1.76). **CONCLUSIONS:** The majority of the results of renal function in children with high levels of fluoride excretion are within normal limits.

**KEY WORDS:** Renal function, fluoride, excretion

## ABSTRACT

**Objective:** The aim of this research was to measure the natural fluoride in the sub-basins from some San Juan de Pasto locations and some towns from Galeras Volcano belt way. **Materials and Methods:** It was designed an exploratory descriptive study. 82 water samples were taken from 7 sub-basins that nourish the 102 rural dams from Pasto town. It was also analyzed 7 water samples from the subbasins found in the Galeras Volcano belt way. The fluoride concentration was measured by "Selective Ion Electrode Method with an "Expandable Ion Analyzer" EA - 940, Orion Research equipment. The water sampler analysis was made in the Health Department Institute at the Bromatology Laboratory. **Results:** The measures oscillated between imperceptible values and 0.34 p.p.m. The results found in the Galeras Volcano belt way were between 0.58 p.p.m. and 0.71 p.p.m. After taking the water samples, it was made an schedule of these water fluoride concentration measures. **Conclusion:** Many of the Fluoride ion measures had variations through the last 16 years, however, any was related to dental fluorosis.

**KEY WORDS:** Natural Fluoride, Water and Sub-basins.



## ABSTRACT

The purpose of the present study was to determine the prevalence of dental caries in children of 3 and 4 years old, in public and private schools of the Villavicencio City using the dmf-s (WHO) and the criterion of diagnostic for caries of Ekstrand modified ICDAS: International Caries Detection and Assessment System. **Method:** 323 boys and girls participated among 3 and 4 years old distributed as follow: 214 children of private schools and 109 children of public schools. The diagnosis criteria used were the dmf-s index (WHO) and the criteria of ICDAS. Previous to the beginning of the study parents and teachers were informed the purpose such study obtaining the consent of the children's parents. To establish the differences among frequencies observed for caries prevalence it was used a chi square test with a significance of 0.05%. **Results:** the prevalence of dental caries in the studied population was 3.9 % using the dmf-s index (WHO) and the diagnosis criteria for ICDAS it was respectively of 24.65 %. **Conclusion:** the index of caries increased proportionally to the age, the cavity even prevails more in public schools in comparison with private schools, in the same way it happens with the males respect to females all the above-mentioned according the dmf-s (WHO). The values obtained with the diagnosis criteria of ICDAS they were higher than those obtained with the dmf-s (OMS).

**KEY WORDS:** Prevalence of caries, dmf-s index (WHO), ICDAS criterion, Non cavities lesions, Active lesions.

## ABSTRACT

**Objective:** To compare the plaque removal efficacy of two toothbrushes: a conventional manual toothbrush and a mechanical one as used by young handicapped people. **Materials and method:** This quasi-experimental study used a "full randomized cross design" and included young handicapped people, with ages ranging from 15 to 25 years, belonging to the socio-economic level 1 and 2 who attended training programs at one institute for handicapped people in the city of Manizales, Colombia. The sample consisted of 60 young individuals, selected at randomized way, who tried the toothbrushes in two cycles, for a total amount of 120 analysis units. Special education professionals gave all of the participants in the study three basic training sessions in dental toothbrushing by using the Bass technique. Each participant used both toothbrushes in crossed quadrants. A blind examiner measured the bacterial plaque pre- and post-indices according to the Quigley and Hein Index as modified by Turesky. **Results:** There was a statistically significant difference between the averages of bacterial plaque pre- and post-index after using the mechanical toothbrush and the manual one was founded. There was no statistically significant difference between the averages of the bacterial plaque post-indices by using both types of toothbrush. **Conclusion:** There was no difference in the bacterial plaque removal efficacy between the use of the mechanical and the manual toothbrushes by young handicapped individuals.

**KEY WORDS:** Handicapped, Bacterial Plaque, Mechanical Toothbrush, Manual Toothbrush, Oral Hygiene.



# 3

# ENDODONTICS

## ABSTRACT

**Purpose:** To compare the apical leakage produced by the technique of lateral condensation and the technique of the single cone. **Material and methods:** An experimental in vitro study was done and two endodontical obturation techniques were compared: group 0: lateral Condensation, Group 1: the single Cone, undergo a process in the laboratory and later they were observed in the stereomicroscopy. An analysis was applied with Fischer's exact Test and the test of Wilcoxon's ranges to evaluate the existence of the level of apical leakage. **Results:** Qualitatively there are not significant differences in the apical leakage, with the technique of lateral condensation and with the technique of the single cone with  $p = 0,235$ . The quantitative evaluation, revealed statistically significant differences in the apical leakage measured in millimetres, with the technique of lateral condensation besides to the technique of the single cone with  $p=0,0402$ . **Conclusions:** This information demonstrated that it exist apical leakage independently of the technique. Additionally, lateral condensation technique presents a bigger leakage.

**KEY WORDS:** Apical leakage, Lateral Condensation, Single Cone.

## ABSTRACT

The purpose of this investigation was to evaluate the changes in the characteristics of absorption, conicity and resistance to the disintegration from the subjected paper tips to different cycles and sterilization techniques. Tips of absorbent paper of five commercial houses were selected (B.N.K., INDENTAL, NEW STETIC, HYGENIC and ROEKO) and were subjected to 1, 3 and 5 sterilization cycles in dry heat and humidity respectively. For conicity the changes were not produced by the variable cycles and sterilization techniques. The biggest differences took place among marks; and among the marks with the Colombian technical guideline 4800, being ROEKO and HYGENIC those that more they come closer to that settled down by this. B.N.K., INDENTAL, and NEW STETIC, presented bigger power of absorption, possibly for their less compact structure. All the paper tips fulfilled the resistance parameters to the disintegration. The changes taken place in the characteristics of absorption, conicity and resistance to the disintegration, with regard to the variable cycles and sterilization techniques, there are no significant differences. The variations among the marks, could be due to the existent differences in the factory processes. Not all the studied commercial houses fulfilled the requirements settled down by the Colombian technical guideline 4800.

**KEY WORDS:** Paper Tips, Absorption, Conicity, Resistance to the disintegration.



## ABSTRACT

The purpose of this study was to evaluate the differences in chemical changes between two cements used for temporary restorations; IRM (Coltene Whaledent) a temporary zinc phosphate eugenol cement reinforced with resin particles was compared with Coltosol, a zinc phosphate cement with calcium sulphate and no eugenol and were compared when exposed to contact with Sodium Perborate in a humid environment during an 8 day period. **MATERIALS AND METHODS:** A conventional access cavity was performed on 40 teeth and 4 mms below the Cementum enamel junction (CEJ). Cavity was filled 3 millimetres with a composite resin. Sodium Perborate mixed with distilled water was introduced into the internal part of the cavity. A temporary filling with either IRM or Coltosol. An infrared analysis in order to determine the chemical composition of each one of the groups and changes after 8 days was evaluated. **RESULTS:** The infrared spectrum of the Coltosol Group indicated that the chemical composition consisted of Zinc Phosphate, Calcium Sulphate and Chloride Acetate Polyvinyl. The composition of Coltosol in contact with Sodium Perborate revealed a correlation of 87% with the original Coltosol. The IRM infrared spectrum showed the presence of Zinc phosphatate methyl polymetacrylate and eugenol indicating a correlation of 77% with the non-contaminated product; external surfaces which were not in contact with humidity did not present any changes. **CONCLUSIONS:** 1-Coltosol presented greater changes in its organic matrix than IRM 2- The inorganic matrix of both cements remained unchanged when in contact with humidity 3- IRM samples presented in contact with sodium Perborate presented greater changes than Coltosol. 4- When Sodium Perborate is utilized in non-vital tooth whitening it is of great importance that the temporary restoration have the adequate deepness so that the chemical damage of the material does not affect the integrity of the restoration or its marginal seal.

## ABSTRACT

The apoptosis is a programmed cellular death that appears in physiological and pathological processes. Analyzing the phenomenon of the apoptosis in Acute Irreversible Pulpitis (AIP) and comparing it in CHP will allow to an ampler knowledge on the etiology and dynamics of the pulpar pathologies, thus to raise therapeutic alternatives different from the habitual one (extirpation pulp tissue). In this study 15 samples from CHP and 15 of AIP were taken. Histotechnology of routine was made later and the immunohistochemistry using the antibody MabF7-26, a sensitive and specific method for the detection of apoptotic cells. In the samples of CHP with H&E, the histologic layers were observed: odontoblastic zone, acellular zone and central zone. In the samples with AIP it found: increase in the permeability of the vessel, predominantly chronic inflammatory infiltrating and lost in the continuity of the odontoblastic layer. As aging pulp it found: decrease in cellular content, increase in the fibrous content and is present of adipose tissue. In both groups of samples it found apoptotic cells. The apoptosis presence in CHP maintain the tissue homeostasis with respect to the cellular proliferation of mode similar to other connective tissue of the body. In AIP this increased the process of apoptosis, possibly acts like a self-regulation mechanism that allows to eliminate the inflammatory cells when these already they have acted the as of eliminating the antigen.

**KEY WORDS:** Apoptosis, DNA Fragmentation, Clinically Healthy Pulp (CHP), Acute Irreversible Pulpitis (AIP).



# 4

## ORTHODONTICS, ORTHOPEDIC, GROWTH AND DEVELOPMENT

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## ABSTRACT

**BACKGROUND:** This study assesses the strength in unbonded in orthodontic brackets and de-cementation were measured using a conventional adhesive system and two self etching primers. **OBJECTIVE:** To measure in MPa strength in enamel, during the orthodontic brackets descementation using a conventional adhesive system and two self etching primers. **METHODS:** An experimental standard study was realized where a sample of an intentional character. Thirty premolars of healthy, young and without previous orthodontic treatment was chosen. The procedure consisted in to gather premolar after the extraction, keeping safe them in an artificial saliva environment SALIVAR<sup>®</sup>. The first group was realized a brackets placement with a conventional adhesive system TRANSBOND PLUS XT (3M) UNITEK<sup>®</sup>. The second group was used a self etching primer of first step ADPER PROMPT L-POP (3M) and in the third group was used a self etching primer of two steps APDER PROMPT 3M, then, the teeth were submerged in SALIVAR<sup>®</sup> 24 hours and later it was realized the de-cementation process using the universal machine shear of forces UH100A. Measurements was made of the strength in unbonding by the same machine. **RESULTS:** After analyze the results, were found bigger strength in unbondig using the conventional adhesive system compared with the two self-etch system. Significant differences were not found in the strength in unbonding between both self etching primer systems. **CONCLUSIONS:** The shear bond strength in unbonding the orthodontic brackets using self etching primer was acceptable clinically, although were bellow of the range of shear bond strength when used the conventional adhesive system.

**KEY WORDS:** Self etching primer, Shear bond strength, Conventional adhesive system, Orthodontic brackets, Unbonding.

## ABSTRACT

The malocclusion of class III is an alteration of the skeletal, occlusal, face and functional pattern, in where harmony between maxilla and the mandible does not exist, being observed affected in the three planes of the space; when this malocclusion is defined does not traditionally consider the transversal behavior, being the primary target of this study to establish cross-sectional, dental and skeletal diagnose of the mandible with respect to maxilla in models of study and posteroanterior x-rays of patients with malocclusion of class III of the orthodontia and orthopedic clinic of the University of Cartagena between January of 2004 to January of 2005. For such aim it was considered the biotypology and the skeletal and dental sagittal relation with the clinical examination, in models of study and profile telerradiographs. At statistical level, tests of proportion of the mandible with respect to maxilla were applied and the coefficient of contingency of variables. It was found that at dentoalveolar cross-sectional level 70.1% of the measures presented compression of the mandible with respect to maxilla, and, at skeletal cross-sectional level, 68% of the patients presented compression of the mandible with respect to maxilla.

**KEY WORDS:** Class III, Proportion of the mandible with respect to maxilla, Biotypology, transversal compression





## SERIES OF CASES DEALT WITH CROSS-SECTIONAL DENTOALVEOLAR MANDIBULAR EXPANSION AS ALTERNATIVE TREATMENT IN PATIENTS WITH MALOCCLUSION CLASS III IN EARLY AGES

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### ABSTRACT

Class III malocclusion is a complex entity that varies in agreement with the period of development in which also is the patient and with the involved factors inside and the occlusal relations of the inferior arches are previous with respect to superior arches relations. This problem is pronounced generally to a very early age, before the 6 years; at these ages the therapeutic must be oriented to prevent a situation restored in which superior jaw loses its influence and control in mandibular growth. The treatments to correct these malocclusions always have been directed for solving the problem in anteroposterior sense mainly, leaving aside the vertical and cross-sectional component; The objective of this series of cases study is to offer a treatment alternative that involves, in addition, the cross-sectional component, in order to obtain harmony of maxillaries in the three planes of the space. In 11 patients with ages between the 3 to 12 years with diagnosis of class III and compression of its mandible with respect to maxilla, models of study were taken, lateral and posteroanterior x-rays at the beginning and at the end of the treatment. The treatment consisted of the cross-sectional expansion to dentoalveolar of the mandible. For such aim it was used an inferior active plate with occlusal faces covered and screw of average expansion that acted on the transversal plane. Having the data thrown by the radiographic analysis and models, it was found that after six months of treatment, anteroposteriorly the ANB presented improvement in 5 patients. Only 2 patients did not present changes at Overjet level. Showing that with the cross-sectional expansion of the mandible in the patients with class III, changes in anteroposterior sense were obtained taking the patient to a skeletal and dentoalveolar relation more harmonic between maxilla and jaw.

**KEY WORDS:** Class III, cross-sectional expansion, ANB, Overjet

## CRANIOFACIAL MORPHOLOGY IN PARENTS WITH AND WITHOUT ORALFACIAL CLEFTS

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### ABSTRACT

**Objective:** The aim of this study was to identify the cephalometric measures that can be used to predict the possibility of having child with oral facial clefts. **Materials and Methods:** An observational descriptive study was done. Eighty three (83) parents with orofacial cleft of child and 23 parents without it were taken. A lateral radiographic was taken and 12 measures were considered in the cephalometric analysis. In the statistical analyses the reliability interater was evaluated with Bland and Altman agreement test. T and ANOVA tests were used to compare groups. **Result:** Cephalometric measures that had differences between the mother in the groups with and without oral facial clefts were: Co-A, ENA-ENP, Go-Me, S-N, SNB angle all of them were shorter in the statistic significant way between the mother whom their son had a orofacial clefts; however there are no statistical differences in the fathers. **Conclusions:** The maternal genetics could be more relevant than paternal genetics morphological patterns.

**KEY WORDS:** Childs, Cephalometric Measures, Orofacial Clefts, Parents



## ABSTRACT

**Objective:** To describe advantages and disadvantages of use orthopedic presurgical treatment in patients with cleft lip, unilateral cleft and lip palate, bilateral cleft and lip palate, and cleft palate; using a scientific method based in selection and analysis of the available evidence. **Materials and Methods:** A sistematic revision of the literature was done with 52 articles published from 1950 to 2004, analized according to criteria stated by the US agency for Health Care Policy Research of the evidence leves. **Conclusion:** There are studies with high level of evidence that confirm advantage to short term of the orthopedic presurgical treatment, within this sistematic revision, there not found strong bases that prove effects harmful that some autors related to the use of orthopedic presurgical, therefore are necessary well-designed studies that support the rejection to use of this techniques.

**KEY WORDS:** Lip, Palate, Cleft, Presurgical, Orthopedic.

## ABSTRACT

The purpose of this study was to determine the association between the skeletal basal and dentalmandibular arch dimensions, in 18-25 year old 25 Colombian subjects. **Materials and Methods:** A descriptive study was designed, and it was performed using measurements on 25 subjects aged 18-25 years with normal occlusion. It was assessed through extra-oral submental vertex radiographs andplaster casts. The measurements were taken from skeletal basal and dental mandibular arches. Independent Kruskall Wallis, Mann-Whitney, Kolmogorov-Smirnov Z comparison tests, and Pearson, Spearman and Kendall correlations were applied for doing the statistical analysis. **Results:** This findings suggets that there is an slight correlation between skeletal basal and dental mandibular arches measurements. **Conclusions:** The results don't support the Orthodontics paradigm that there is an association between skeletal basal and dental mandibular arches measurements.

**KEY WORDS:** skeletal basal mandibular arch, dental mandibular arch, submental vertex radiograph.



## ABSTRACT

Several authors have suggested that the early treatment of skeletal alterations seeking to modify craniofacial growth behavior and diminish the discrepancies expression. To correct class III malocclusions different alternatives have been proposed. Among this alternatives, the combined treatment with maxillary protraction and Rapid Palatal Expansion (RPE), are indicated when maxillary retrusion is determinant to create the malocclusion. **Objective:** To evaluate the craniofacial and dentoalveolar changes in 4 patients with class III malocclusion between 5 and 7 years old treated with face mask and RPE during 10 months. **Methods and Materials:** Cephalic x-rays were taken to each patient in three time periods: pre-treatment, during the treatment and post-treatment, and dental casts pretreatment and post-treatment. **Results:** Examination of the effects reveals clinical skeletal and dental changes in maxilla and mandible. **Conclusion:** Protraction face mask therapy is effective in patients in growing age and, in combination with an initial period of expansion, provides transversal, sagittal and vertical important changes to reduce the severity of class III malocclusion.

**KEY WORDS:** Class III malocclusion, maxillary protraction, face mask, rapid palatal expansion.

## ABSTRACT

**Objective:** The aim of this investigation was to compare the Posteroanterior cephalometric measures (PA) present in parents of children with cleft lip and/or palate and parents of children without orofacial fissures (HOF). **Materials and Methods:** a descriptive cross-sectional and observational study was done. Eighty two (82) parents were selected: forty-three (43) parents of children with non-syndromic LPH and thirty nine (39) parents of children without HOF. Socio-demographic variables and PA cephalometric measures were included. The statistical analysis plan included the calculation of summary measures and T student and rank Wilcoxon test were applied. PA x-rays of the two groups were obtained using a Standard technique on a cephalometric Orthoralix SD. Photos were taken using a digital camera, which were then exported to a computer previously calibrated and they were analyzed using the Software Nemoceph, to determine the craneofacial morphology. **Results:** There were statistically significant differences between parents with and without orofacial fissures in the following variables: Cg-ENA, ENA-me, Cg-me, Ag-GA. Equally, there was statistical significance for gender in the presence of children with or without HOF in the variable Cg-ENA, ENA-me, Cg-me, Ag-GA, Bc-me. **Conclusions:** Some PA cephalometric cranio-facial measures can be different between population with and without LPH, its important in the development of the HOF and will allow the evaluation of the risk of the presence of this anomaly in future generations.

**KEY WORDS:** Craniofacial Morphology, Frontal Cephalograms, Lip and / or cleft palate



## ABSTRACT

This study aimed at assessing the caries status of 74 12-29 year.-old under fixed-orthodontic treatment, in the Dental Clinic, at the Universidad El Bosque, Bogotá. The following visual caries-criteria were used: 1B/1W-White/Brown opacity with air-drying; 2B/2W-White/Brown opacity without air-drying; 3-Underlying shadow; 4- Surface integrity' loss; 5-Distinct cavity; 6-Extensive cavity. The majority of patients showed a fair (64.86%) to poor (14.86%) oral hygiene. The mean DMF-S was  $6.7 \pm 6.3$ , corresponding to  $23.6 \pm 9.4$  with the new system, of which:  $17.5 \pm 5.8$  surfaces score 1W-6;  $1.1 \pm 2.2$  missing; and  $5.0 \pm 4.7$  filled. All patients had 2 or more carious lesions and 51.4% more than 16. The average caries experience condition within the teeth showed no difference between right and left side; almost half of first premolars were extracted orthodontic-wise (55%-upper; 43%-lower). Two thirds (66.6%) of all teeth were sound and 24.9% had any carious lesion scores 1W-6; 23.1% had white opacities (1W,2W). Concerning tooth type, the first and third molars, the lower incisors and the first-upper premolar had less than 18% carious lesions. Among the other tooth types, 28-40% of the caries lesions corresponded to white opacities. Of these, white opacities in the buccal surface corresponded to over 24% in lower canines (36.5%), upper canines (28.0%), lateral-upper incisors (27.8%), central-upper incisors (27.7%), second-lower premolars (26.75%), and second-lower molars (24.4%). In lateral-upper incisors, white opacities were located around the bracket (middle third) in 34.5% of the cases; in central-upper incisors (28.8%); and in upper canines (21.6%); the remaining lesions occupied the cervical third in these teeth as well as in the majority of other involved ones. The results show a high incidence of white opacities related with orthodontic appliances which indicate an urgent need to implement preventive programmes in this dental clinic.

**KEY WORDS:** Orthodontics, Dental caries, Dental status, opacity

## ABSTRACT

**Objective:** The aim of this investigation was identify the common variability dimensions existing in skeletal asymmetries of type transversal by main compounds analysis (factorial analysis). **Materials and Methods:** Fifty adult patients were included in this study with clinic and radiographic evidence of transversal skeletal asymmetry. A set of records, profiles, anteroposterior and submental vertex radiographic films were taken in patients. After making descriptive analysis of each variables (Total 33 variables) identified on radiographs, it was carried out an association among 33 variables, so that it was yielded an correlation matrix with 1089 associations. After the matrix was obtained, it was followed with assessment of communal points and variance and maken factorization and rotation stage of matrix that allowed fulfilling the objective to find variaton sources. Finally, ten (10) factors were defined to explain the association on transversal assymetries. The 10 factors were: (1) anterior posterior length of skull base, (2) andible right length, (3) total facial height, (4) anterior posterior right condyle position,(5) posterior facial height, (6) skull width, (7) incisive superior inclination with respect to skull base,(8) incisive superior inclination with maxilar, (9) maxillary width, (10) condyle transversal position. **Conclusions:** In accordance with results, it could be possible to describe with analysis the typical jax of the laterognaties where condyle position both anterior posterior and transversal way is affected with reverse associations among them. It was observed that problem or cause of laterognaties does not affect the cranial facial general patterns of association. This show evidence about factors leading to laterognaty tends to be local. In addition, it defined that the laterognaties problem makes important changes in jaw including alterations in three dimention of space.

**KEYS WORD:** Transversal asymmetry, Factorial Analysis



## ABSTRACT

This cephalometric investigation compared the treatment and post-treatment effects of patients undergoing an initial phase of mandibular cervical headgear (MCH) therapy followed later by comprehensive edgewise therapy to untreated Class III controls. The treated sample consisted of 21 patients treated consecutively with MCH prior to the pubertal growth spurt (average age 10 years and 2 months at the beginning of treatment). At the final observation period (average age of 15 years 3 months), all patients were in decelerative growth phases as determined by the cervical vertebral maturation (CVM) method. Active treatment and post-treatment effects were evaluated within the treated group by means of non-parametric statistical analysis for paired samples. The treated sample was compared by means of a non-parametric statistical test for independent samples to 20 untreated Class III subjects who were matched for malocclusion, gender, and stage of cervical vertebral maturation to the treatment group. MCH therapy followed by fixed appliances was shown to be an effective treatment for the correction of skeletal Class III malocclusion at a post-pubertal observation. The favorable skeletal effects consisted mainly in smaller increases in mandibular length and advancement with respect to controls, with the final outcome of a significant improvement in the sagittal skeletal (+4 mm for the Wits appraisal) and dental (+2.7 mm for the overjet, and -4.4 mm for the molar relation) parameters. The examined treatment protocol induced also a significant downward rotation of the mandible (2.8 degrees).

**KEY WORDS:** Class III malocclusion, mandibular headgear, cephalometrics, orthodontic treatment

## ABSTRACT

**BACKGROUND:** Among the alterations of breathing is the mouth breathing, considered as a habit related to hypertrophy of adenoids, tonsils and with pathologies of respiratory tract. **OBJECTIVE:** to compare the muscular activity as electromyography activity, in young nasal and mixed breathers with oral predominance in ages from 6 to 8 years, with the purpose of relate the mastication to the breathing in these patients. **METHODS:** The type of study was a observational descriptive study; with a sample of 54 nasal and mixed breathers with oral predominance. The follow inclusion criteria were included: patient in temporary dentition or mixed young, between 6th and 8th year, living in Bogotá, former student of any educational institution, matched by age and corporal mass; and children with the following pathologies were excluded: systemic commitment, mental upheavals, misbehavior, related oral habits, anatomical alterations of the nose. The clinical evaluation was made previous consent from the parents, the muscular activity was measured in terms of electromyography activity in mastication and clenching of the masseter muscle; the Statacorp 1997 program was used for the statistical analysis area under the curve of the surface quantitative electromyography. **RESULTS:** There were no statistically significant differences between the electromyography activity by type of breathing, sex and group of age ( $p < 0.05$ ). **CONCLUSIONS:** in children from 6 to 8 years old there is no a very clear manifestation of the electromyography activity as far as the type of nasal or mixed breathing with oral predominance, or if it has a bilateral or unilateral mastication.

**KEY WORDS:** Nasal Breathing, Mouth Breathing, Electromyography, Masseter Muscle, Mastication.

## ABSTRACT

**Objective:** To evaluate frictional forces generated between steel brackets with steel wires, thermal treatment steel wires and vitreous coated steel wires applied by the Sol-Gel method. **Materials and methods:** A 0.018 x 0.025 inch slot bracket and 0.016 x 0.016 inch steel wires were used. Each one of the combinations was made several times using elastomeric modules. Brackets, wires and the elastomeric modules were analyzed by Optical Microscopy and Scanning Electron Microscopy (SEM). The frictional force was evaluated using a Testresources™ testing machine at 21°C room temperature in the dry state. **Results** The stainless steel wires group (CONTROL) presented the lowest values for static friction force, followed by the vitreous coated steel wires group (SOLGEL) and the thermal treatment steel wires group (THERMAL). For the dynamic friction the SOLGEL group showed the lowest values for static friction force, followed by the CONTROL group and the THERMAL group.

**KEY WORDS:** Friction, bracket, steel wires, coatings, Sol-Gel.

# 5

## PATHOLOGY, ORAL MEDICINE AND SURGERY, RADIOLOGYS, OCLUSSION AND TMJ

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## ABSTRACT

**Objectives:** To determine the frequency and variability of twelve non-metric dental crown traits (winging, shovel-shape, double shovel shape, Carabelli's trait, groove pattern, cusp number, trigonid distal crest, deflecting wrinkle, protostylid, sixth cusp and seventh cusp) in deciduous (ui1/ui2/um2/lm2) and permanent (UI1/UI2/UM1/LM1) teeth, to understand the ethnic influence and the biological distance of three indigenous groups of the Colombian Amazon. **Materials and methods:** In this descriptive and quantitative study, frequency and variability of twelve non-metric dental crown traits were observed, through the Hanihara, Dahlberg, Sciulli, Grine and ASUDAS Systems, in dental casts from 100 children from three indigenous groups of the Colombian Amazons, of both sexes, in mixed-dentition and belonging to the Ticuna, Huitoto y Cocama ethnic groups. **Results and Conclusions:** High frequencies of winging, shovel-shape, double shovel shape, furrows and pits of the Carabelli's trait, Y6 and Y7 groove pattern, deflecting wrinkle, protostylid and sixth cusp, were observed: These traits are typical of the dental morphology of the Mongoloid dental complex - Sinodonty subdivision. Significant frequencies of the +6 and +7 groove pattern and of the seventh cusp suggests miscegenation. Biological affinity exists among the three indigenous groups, and correspondence of non-metric dental traits expression in both dentitions, bilateral symmetry and absence of sexual dimorphism was demonstrated.

**KEY WORDS:** Dental anthropology. Non-metric dental crown traits. Temporal and permanent dentition. Amazon natives.

## ABSTRACT

**Objective:** The general objective of this study was to evaluate radiographic and histologically the elevation of the maxillary sinus floor using tricalcium phosphate in patients with Bicon® implants in the upper posterior sector. **Material and methods:** This study was established as a non controlled quasi-experimental investigation. In order to recollect the information, a format was used to register the personal date of the patient that could be important to achieve this study. Panoramic radiographic films were taken before and after the procedure to evaluate the raise in the height of the maxillary sinus. Periapical radiograph were taken to asses the osseointegration of the implant. A histological sample was also taken for this study. The information was decodificated and tabulate in frequency tables and graphics. **Results:** At the beginning, the average values of the height of the maxillary sinus range in 3.75 mm after the procedures and it was found that during the first control the height increased to 17.04 mm in average During the evaluate of mobility and pain. The behavior was favorable with absense of this signs in all patients. Periapical radiographs demonstrated absense of radiolucences zones around the implant. In the histological results spongy bone travecules were observe in the different stages of formation. **Conclusions:** The lateral sinus lift is a procedure that offers and advantage at the moment that it is required an optimum height for the placement of implants. In this research tricalcium phosphate demonstrated to be effective as a filling material, used in the maxillary sinus floor that lack thickness helping in the stability after three months, for a posterior implant placement.

**KEY WORDS:** Lateral sinus lift, osseointegration, Bicon® implant





## ABSTRACT

**SUMMARY:** Herpes simplex infection (HSV) type 1 is common in the general population. In adults it generally presents as a recurrent infection because the viral capacity remains in a latent state and reactivates with different stimulus. In patients with immunodeficiency syndrome it has been reported as a frequent infection, with different degrees of severity. The aim in this investigation was to establish the relationship between the clinical infection by HSV-1, the CD4+ account and the viral load. **Materials and Methods:** A descriptive, retrospective study was conducted, based on histories of 443 in HIV positive patients at the San Ignacio University Hospital, establishing the presence of the clinical infection by HSV-1 and its relation to the viral load and the CD4 + account, using as a control group, patients VIH + but without histories of reported herpes infection. **Results:** From 443 patient records revised, 64 (14.44%) reported infection by HVS-1; 39 (8.8%) fulfilled with the inclusion criteria. In this group was observed no association exists between the CD4 account and presence or absences of HVS-1. Regarding the viral load, it was found higher in patients with HSV-1 in the studied groups. **Conclusions:** The CD4 accounts do not have relation with the injuries that appear in HIV positive patients, and the HSV-1 presence as other opportunist infections could affect the viral load values.

**KEY WORDS:** HVS-1, HIV, AIDS, CD4

## ABSTRACT

In this approach variables are compared on a same group in a lapse of 3 years to determine changes in growth and the occlusal development. These characteristic presents in the Ticuna population must be related to environmental factors that stimulate the presence of these. The study was made with 45 amazonian indigenous children of the school Francisco Jose de Calda, Leticia, Amazon. Plaster models and records were elaborated in bit registration wax. The measures were taken directly on the models under the same criteria of first stage. The variables of transverse dimension increased from time 1 to the 2 significantly. Intercanine distance superior passage from 34,4 to 36,3mm, inferior intercanine distance from 27,7 to 29,0mm, anterior width superior from 37,2 to 38,5mm, inferior width anterior from 35,4 to 37,2mm, posterior width superior from 46,5 to 48.3mm. inferior posterior width from 46,4 to 47.6mm. The perimeter of superior arc increased significantly; the perimeter of inferior arc did not show a change; a significant difference for the sagitales or vertical variables did not exist. The found significant differences in the cross-sectional variables are consequent with the hypothesis of cross-sectional growth for this population. In this population ethnic and environmental factors must exist that stimulate the cross-sectional development. Maxilar responds more to the stimuli of transverse development that the jaw.

**KEY WORDS:** transversedimension, environmental factors, ethnic group ticuna



## ABSTRACT

**Introduction:**The injuries in the tooth cervical region without decay presence are known like abfracciones. It can be think that these injuries are produced by forces that act in the tooth, creating stress concentration in these zones. The objective of the present study is to develop a strategy by three-dimensional finite elements modeling of a mandibular first premolar, under loads in different directions wich simulate occlusion problems. For this one leans in previous studies made in the Uniersidad Nacional de Colombia and recent international publications. **Materials and Methods:**The mandibular first premolar was simulated applying a load of 10 N in different directions and modeling the periodontal ligament with a hyperelastic behavior with the first order Ogden model. With the loads applied in the selected meeting points, the direction that produces the lowest stress in the cervical region of the tooth is at 5° distal to mesial and 5° vestibular to lingual. The loads that produce higher stress, they are those that form greater angles with respect to the axis of the tooth and these stresses are of compressive nature.

**KEY WORDS:** Abfraction, Stress distribution, FEM, Mandibular First premolar, Occlusion

## ABSTRACT

**Background:**The modern vision of the dentistry contemplates the process Health/illness like an integrality that allows to perceive the patient from the group of systems that conform it. This conception implies to guide the dentist, toward a wider and more complex view of the same one. The previous premise establish diagnosis parameters and treatment, related with certain systemic conditions that have links with the buccal component of the organism and vice versa.The chronic kidney failure (CKF) it is a decrease of the kidney function, having causes as diabetes, primary glomerular condition and hypertensive stages. The outlined diverse situations, apparently alert to phisycian, to being interrogate about the importance of establishing the relationships that exist, between the discoveries and the inadequacy chronicle renal in hemodialized patients. The above mentioned should be confronted with the discoveries that show up in patient with another type of systemic chronic failures, as diabetes and hypertension that allow determine if the same ones, are product of the pathology and/or consequence of secondary affections with manifestations in CKF.CKF is an disease that have manifestations in oral cavity and the lack of knowledge of its nature increase the clinical square of base; reason for which is necessary to know the relationship of the stomatological findings with CKF, to be able to an Interdisciplinary handling that improves the life quality to settle down and avoid complications.**Materials and Methods:**The above mentioned motivated the longitudinal study of cohorts, prospective with a quantitative focus of hospital base in patient with CKF in hemodialysis process to one year 2004-2005. Three cohorts were chosen, two selected of aleatory way, and an intentional one, according to the inclusion and exclusion criteria. The cohort of patient with CKF for Glomerulopathic primary stage (GP) was good to establish the lesions attributable to oral conditions and the primary lesion of the kidney. The cohorts of secondary IRC to systemic illness, allowed to identify the secondary lesions of these illnesses; and the cohort of healthy individuals was the control group. And one of each stomatologic evaluation carried out them in cohorts of these, 21 days, Xerostomia 86%, paleness 100%, metallic flavor 86%, tong atrophied 96% as related lesions directly with CKF; being discarded the possible relationship of the discoveries with associated illnesses, medications, evolution time of CKF, seric albumin levels and kt/V. This study is the first one that is carried out with the mentioned characteristics, looking for this way to toast to the community prescribe-odontológica better specialized scientific bases that allow them to improve the attention of patient IRC ostensibly.

**KEY WORDS:** IRC, oral findings, cohort, Xerostomy, metallic flavor, atrophies.

## ABSTRACT

**Objective:** To describe the physical changes that suffer the amalgams and resins in anterior as much as posterior teeth carried out in oral cavity of swinish, when they are subjected to high temperatures  
**Method:** An experimental type of study was performed, a sample of 168 teeth were used in 14 porcine heads where class III and IV cavities were corrected with resins in anterior teeth, and class I and II cavities were obturated with amalgams and resins in posterior teeth for a total of 112 teeth plugged with resins and 56 teeth plugged with amalgam. Later on, the heads were incinerated in a crematory oven with an initial temperature of 22°C, taking out two heads each 100°C, until getting to a temperature of 750°C. **Results:** Physical changes were observed regarding the color, detachment, fractures and disintegration, which were the fundamental variables studied in the results of the resistance of each material used. The team found that the amalgam as much as the resin in posterior teeth disintegrate at the same temperature, being at 750°C. On the contrary, the resin in anterior teeth, disintegrated at 350°C. **Conclusions:** The application of this study to the forensic dentistry is useful since it offers us characteristic outstanding of an individual by means of the dental letter when observing the present restorations in its mouth. The amalgam restorations and resin usually have more resistance in posterior teeth due to the protection offered by the soft tissue surrounding them, while in anterior teeth there is the opening of the oral cavity thus more susceptible.

**KEY WORDS:** Forensic dentistry, dental Identification, Incineration, dental Materials

## ABSTRACT

**Introduction:** The interoperability, between systems from different vendors within a given healthcare facility, guarantees the preservation and availability of acquired patient diagnostic information across different generations of imaging software and display hardware. Supporting the DICOM standard is a great advantage in order to obtain such interoperability. DICOM is the worldwide standard for image exchange, and includes several medical specialties, between which there is odontology. **Objective:** Develop a software system which integrates services and protocols based on Web technologies, in order to support medical processes of consultation and image diagnostic in a timely and reliable manner through the Internet. **Methods:** For the development of the system we implemented communication protocols and Web applications according to the specifications of the DICOM standard (Part 18), we used open source technologies, such as PHP, MySQL, ADOdb, and DCMTK. The system was installed in a server running Linux operating system. **Results:** The implementation of the service allows healthcare professionals, users of the system, to perform searches, view and download DICOM objects (images), as well as share them with other users. All of this is performed in a Web environment. **Conclusions:** Internet provides an extraordinary means for the exchange of medical images, as well as for the collaboration in medicine in general. Additionally, it allows doctors, radiologist, and other healthcare specialists, to recover information from any geographic location, being independent from the individual platforms used on each institution.

**KEY WORDS:** DICOM, Web, Software, Tele-radiology, Biomedical Images, Internet.

## RESUMEN

The temporomandibular disorders (DTM) embrace different etiologies. To verify this hypothesis the surgery of the third molar included as a factor etiology of the DTM was investigated. A sample of 60 patients with and without orthodontic treatment between the 15 and 32 years of age and the inclusion approach in the study was the total impaction of the third inferior molar. The result of the used variables didn't show a significant relationship between the surgery of the third included inferior molar and the DTM.

**KEY WORDS:** DTM, surgery of the third molar, included.

## RESUMEN

This study describes the development of a portable system of data acquisition for the Gnatodynamometer-GIB, with the purpose of storing tests of occlusal force in people, who are identified by their names and a codes of 4 digits. The system took measurements in 60 people, each with 6 measures of bite force. Each measurement was stored in memory and later uploaded to a computer by means of port RS232 and an application of software developed in Borland-Delphi, the uploaded archives are in rich text format (RTF). This analysis are then able to be used as a spreadsheet. All the components of hardware are stored in a commercial metallic box, whose intention is to integrate them, to protect them and to give a commercial aspect to the system. This facilitates its transport and the interaction with the operator of the equipment. An application has been developed to improve the conditions of portability where before it was necessary to carry several equipment. Now there is in no longer to need transport and the use of a portable computer and an I/O connector block of signals to be able to make the tests of bite force, without losing the versatility and the security at the moment for acquiring and for storing the data.

**KEY WORDS:** Data acquisition, bioinstrumentation, bite force, gnatodynamometer, hardware, software.

## ABSTRACT

**BACKGROUND:** Several studies have shown differences in coronal odontometry between males and females, having larger values in male groups compared to female groups. Some studies have proposed that such differences must be present also in teeth roots. **PURPOSE:** To evaluate the sexual dimorphic grade of the inferior canine in Santander's population through odontometry; using the radicular measures proposed by Sanabria and Gomez (2002), with the purpose to generate a statistic formula that allows prediction of sex and that is adequate to Santander's population. **METHODS:** 111 inferior canines teeth were taken (56 males and 55 females), to which the measurements of mesiodistal crown diameter (DMD)\*, bucco-lingual crown diameter (DVL)\*, bucco-lingual cervical diameter (DVLC)\*, bucco-lingual radicular diameter (DVLRL)\*, mesiodistal cervical diameter (DMDC)\*, mesiodistal radicular diameter (DMDR)\*, crown height (HC)\* and root height (HR)\*, were taken. They were analyzed by the Shapiro-Wilk, Kolmogorov-Smirnov normality tests, a Pearson correlation matrix was performed for correlational analysis and a logistic regression analysis. **RESULTS:** Reference tables for each sex were obtained based on recollected data and a logistic regression analysis was made with the step-wise forward technique to predict sex, where the statistic model chose DMD, DMR, HR and DVLC as the best predictors succeeding to predict the sex in 90,1% of the cases. **CONCLUSIONS:** There are odontometrical differences between males and females, radicular height showed a greater dimorphism. The regression formula proposed in this study can be used as an alternative technique for sex determination on damaged or fragmentary adult skeletons not identified in Santander's population.

\* Spanish abbreviations

**KEY WORDS:** Odontometry, Sexual Dimorphism, Sex Determination, Dental Morphology, Anthropometry.



## ABSTRACT

**OBJECTIVE:** The purpose of this study was to analyze and evaluate the extraoral recurrent infection behavior of Herpes simplex virus, after the application of laser of low energy (As,Ga,Al) in scaring, relapses and pain. **MATERIALS AND METHODS:** It was carried out an experimental study with non-controlled clinical tests; taking a 37 patients sample with 52 lesions who presented an extraoral recurrent infection for simple herpes virus (skin, lip and vermilion border). All patients got realized a clinical history before the treatment began. Laser of Galium arsenide and aluminum was applied by 80 seconds, at 60 J/ cm<sup>2</sup> of dissymmetry, wave of 685nm, 30 mW. The Necessary sessions were applied until scaring took place. The pain was evaluated each session of treatment by the analog visual scale (EVA). The treatment was considered concluded when the patient presented clinical disappearance of the lesion (stain). **RESULTS:** 100% of the patients (37), manifested the exhibition to inducer factors to develop the infection. As for pain, 100% of the lesions were symptomatic in the first session, most of the patients 72.9% (27) reported 8 at 10 degree on EVA scale ; 6 to 7 degree on EVA scale, 27.1% (10) of the patients; in the first control appointment and second of laser application, 70.2% (26) of the patients they presented a 0 degree of pain; 21.7% (8), 1 to 3 degree on EVA scale and 8.1% (3) of the patients were in 4 degree; in second control and third laser application appointment, 100% of the patients presented symptomatology absence. What means that pain disappears between 24 and 48 hours.About scaring, they were kept in two lesions groups, monofocal group with 31 and multifocal group with 21. 21. 80.6% (25) monofocal lesions healed completely in control four, 96.7% (30) healed in fifth control, in sixth control 100% of monofocal lesions got scaring. As for the multifocals lesions, 95. 2% healed in the fifth control to get to 100% scaring in seventh control; in this group 9.5% (2) of the patients manifested characteristic sensations of the prodromic period in some areas by observing that the illness was not developed once the Laser application was performed. Relapse Analysis just before the LASER treatment shows that, 14% (5) of the patients revealed to present the pathology for the first time; 86% (32) patients manifested relapse, but 18.75% (6) appeared once or twice a year, 56.25% (18) 3 to 4 times a year, 18.8% (6) 5 to 6 times a year and 6.25% (2) 12 times a year. During the 6 years of the investigation only 7 patients (18.9%) reported relapse, which were 5 appeared on the second year, two of them manifesting prodromic period but clinically there was not the characteristic appearance of the illness, the three remaining they made the clinical manifestation. Other I present it to the 4 years and another to the six years, the patients that relapsed with clinical lesion made it in smaller number with less intense lesions since the vesicles were of smaller size, smaller pain (EVA 3 and 5) and its period of scaring was of 5 days without LASER. It is demonstrated that the few patients that relapsed made it but belatedly in comparison to the initial manifestation that is to say in a lapse of more time, very important discovery from the point of view of comfort for the patient mainly in the cases in that they relapsed 6 or twelve times per year. **CONCLUSIONS:** The therapy Laser controls pain, facilitate the recovery of the function and comfort for the patient, effects that are gotten in 70.2% in the first session and 29.8 remaining in second session. In most of the patients the complete scaring of the lesions (stain presence) it was gotten in the fifth application session. It is observed that the recurrent period has been prolonged after the Lasertherapy, the same as when this it is presented we observe decrease of the intensity of the clinical manifestation of the lesion and a low pain level. The fever, stres, flu or virosis and the sun represent the inducer of the lesion more frequent of herpes of the sample.

**KEY WORDS:** Herpes, Laser, Pain, Scaring, Relapse



## ABSTRACT

**Objective:** To evaluate the effectiveness of the treatment with Laserpoint, in patients affected with Trigemine neuralgia. **Materials and Methods:** He/she was carried out an intervention study with initial history and histories controls with tests controlled clinics. A sample of 24 patients diagnosed with trigemine neuralgia were taken. To all the patients they were obtained a clinical history before beginning the treatment. They are applied soft laser of Ace Ga To the (galio Arsenide and aluminum) in the necessary sessions until the pain disappeared and he/she recovered the function. 120 j/cm<sup>2</sup>, a dissymmetry of 120 J/cm<sup>2</sup>, amplitude of wave of 830 nm in the points trigger, in the acupuncture points specified in the three branches of the trigemine during 30 seg. In each one and along the committed branches. The pain was evaluated in each session by means of the Similar Visual Scale (EVA). **Results:** In 100% of the patients there were disappearance of the pain and recovery of the function discriminated by this way: 58.3% (14 patients) in grade EVA 0, 29.2% (7) grade 1 and 8.3% (2) grade 2, and grade 3 4 ..2% (1). It is necessary to score that the grades 1,2 and 3 of pain was an sporadic sensation of tingling that did not impede well-being neither the patient's function. Secondary effects neither relapses of the pain were not presented. 55% of the patients required from 15 to 20 sessions of Laserpoint. The women needed an average of 35 sessions of Laserpoint and the men needed 25 sessions. The branch but affected it was the 1 with the 58.3%(14 patients), it continues him the 3 with 16.6% (6) and lastly the 2 with 12.5% (4). it is important to score that 82.6% of the patients before the therapy LASER treated the disease with drugs like the anticonvulsivants and neuromodulators. without many results and with secondary effects as drowsiness, sickness, depression. **Conclusions:** The Laserpoint is an effective treatment for the trigemine neuralgia; it doesn't possess secondary effects and improves the quality of the patient's life because of a decrease of pain and recovery of the function.

**KEY WORDS:** Laserpoint, Pain, Neuralgia Trigemine

## ABSTRACT

**Objective.** To compare the effectiveness in the treatment of the recurrent stomatitis aphtouse recurrent of smaller type between oraldine® (hexetidina to 2%) and soft laser (Ace, Ga, To the). **Materials and Methods.** By means of a clinical not controlled rehearsal, it was evaluated the evolution of the signs and symptoms in 32 patients studied with aphtouse lesions, oral cavity characteristic of the stomatitis aphtouse recurrent, this patients they were divided in 2 groups, a group of patients received treatment with soft laser (Ace, Ga, To the) and the other group received treatment with Oraldine® (Hexetidín to 2%). Inclusion variables are patients diagnosed with stomatitis aphtouse recurrent that are not receiving treatment. Variables of exclusion were women in pregnancy, inmunological commitment, patient whose lesions presented at last 3 days of evolution. **Results.** In the group of patients that who received treatment with laser of low power scaring it was observed between the third and sixth appointment a relief of notorious pain from the first appointment, while in the group of patients treated with Oraldine® became a notorious decrease of pain starting from sixth appointment and the scaring of the lesions lapsed starting from sixth appointment. The measurement of the recurrence shows that the group of patients treated with laser only one patient presented a recurrence in 30 days, while from 16 patients assisted with Oraldine® seven they presented recurrence in the same period of time.

**KEY WORDS:** stomatitis aphtous recurrent, soft laser (Ace, Ga, To the), Oraldine®



## ABSTRACT

**OBJECTIVE**To describe methodological design efficiency evaluation of allopurinol mouthrinse versus bicarbonate water for preventing and treatment oral mucositis for children patients with cancer receiving treatment.**DESIGN**A systematic revision of the literature was done with 55 articles published from 1966 to 2005, analyzed according to criteria of *Cochrane Database of Systematic Reviews*.**RESULTS**Several of the interventions were found to have some benet at preventing or reducing the severity of mucositis associated with cancer treatment. The strength of the evidence was variable and implications for practice include consideration that benets may be specic for certain cancer types and treatment. There is a need for well designed and conducted trials with sufficient numbers of participants to perform subgroup analyses by type of disease and chemotherapeutic agent. Today allopurinol mouthrinse is the best treatment in adult patients, but it hasn't proved in children.



# 6

## PEDAGOGY AND CURRICULUM

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## ABSTRACT

**Background:** The aim of this study was to evaluate the perception of risk, the behavioral changes and attitudes compared to the occupational risk in students of the faculty of dentistry at the University El Bosque. Students were followed starting fifth semester to ninth semester. **Materials and Methods:** Students were assigned to two educational interventions consisted on traditional lectures about infection control procedures; lectures took place at the initial stage of fifth semester and last stage of sixth semester. Focus groups were used to evaluate students at fifth, sixth and ninth semester. Additional observations were conducted during the initial, intermediate and final stages of the following academic periods: fifth, seventh and eighth semesters. Further, two observations were performed for sixth semester at the beginning and end of the course. A final evaluation that assessed the application of bio-safety procedures used to reduce occupational risk was conducted in the middle of tenth semester. **Results:** At the initial stage it was found that the perception of the importance of social and sexual risks affected the students. Students recognized the importance of the biological risk and thought of them as potential generators of this risk. Other students did not recognize the notion of risk in their environment. Results from the second focus group showed that the social, and economic risks and smoking had a stronger effect on the students. Mass media campaigns have influenced students in their perception of risk in their daily activities. The third focus group showed that social risks were still considered important and recognition of ergonomic risks beyond other biological risks was more evident. Students have knowledge on risk, are able to recognize its presence and can anticipate it in daily situations (safety on the highways, professional infection control). Generally, there was a conduct change regarding biological risks. Some students expressed that they needed faculty supervision to follow the bio-safety guidelines. Others reported not needing this assistance as they had internalized the process correctly. Observations conducted in fifth and sixth semesters demonstrated a correlation between academic proficiency and positive changes of conduct. These changes were also related to the information provided in the educational sessions. **Conclusions.** Students usually follow the bio-safety guidelines. However, once they went into vacations, negative changes in conduct appeared. It seems that the strategies used did not increase significantly awareness of risk among students.

## ABSTRACT

Diverse studies addressing organizational behaviour have shown that labor image affects motivation, engagement and performance of any organization and its members. Members' perceptions become the reference background to explain environmental needs and to support decision making. Taking this into account, the School Dentistry Agenda for 2005-2010 includes the designing of several strategies for organizational climate improvement. The objective of this study was to develop a good organizational climate and then, to facilitate values and beliefs dialogues. The used strategies were: 1. To identify conflict sources that affect organizational climate. 2. To share strategies in order to facilitate personal and organizational development. 3. To identify strong points that support a good working environment. Eight workshops were designed for all employees. Problems, issues, situations, conflicts and solutions were detected. Critical issues were: communication failures, misunderstanding situations, lack of labor and group respect and labor engagement. Organizational work experiences are related to laboral environment. The participation in workshops let employees to identify their personal needs and intentions.

**KEY WORDS:** Organizational Climate, School of Dentistry, Organizational values.



## ABSTRACT

The intention of the present investigation was to characterize and analyze the professor/student interactions to analyze, for their influence in the formative processes of the program of dentistry in the Javeriana University Dental School. With the purpose of reaching the necessary information, initial survey to 27 students in VII semester were applied, from this survey three professors selected themselves and three student informants. The interpretation of the results yielded a surprising discovery, yet to be seen in the interactions of the social scene within the faculty, both in the dental laboratories, clinics, and didactic studies, determining the form of the educational process. This form of interaction is related to the foundation and profession of dentistry which is a profession of Science, art and the direct relation with similarities. From these interactions each dentist constitutes him/herself, like a professional that jeopardize with life and in search happiness using moral values/religion. Each professional aims for competition, which is a "know how to" and a knowledge and understanding of what is to be done, as well as, including and understanding of himself. A prepared affluent professional knows himself, one who emerges from authorities of high quality which stimulate him in his daily professional exercise.

**KEY WORDS:** Interactions, Formation, Professor, Student, dentistry.

## ABSTRACT

The aim of this research was to evaluate the levels of reading comprehension of students of fourth and ninth semester of the Dental School of the Universidad de Cartagena (Colombia) during 2004. To achieve the results, the authors used a qualitative paradigm of investigation, with a Cases Study design. Written tests and structured interviews were used as data collection techniques. The former were applied to students in order to classify them in different reading comprehension levels; the latter supplied information about students' beliefs. Some categories and macro categories were constructed to carry out the analysis of data. Most of students participating in the study demonstrated an inferential reading comprehension level. A small group showed a good level at a critical or intertextual reading comprehension level, most of them belonging to fourth semester. This may be possible due to reading schemes learned and developed before in the intermediate and basic education (High School). Researchers and students are aware of the need of identifying reading process faults and weaknesses in order to find strategies for enhancing a good social and professional performance. The different roles played by our students created a marked influence over the selection of the reading topics, showing a preference on texts that contribute with their professional education. All this lead for the necessity to promote strategies that help develop and stimulate the reading process in the Dental School of the Universidad de Cartagena (Colombia). It is a coordinated task among the different disciplines that characterize our dental profession. All of us have to work together, with team effort, putting aside scientific differences with teachers of other academic Departments. All this will possibly permit and facilitate the development of reading-writing competences. This process should be oriented by our School Directives. The investigators made a qualitative jump in their way to perceive and confront reality, theirs concepts and relationship among them, by means of a new paradigm of investigation for members of sciences in health formed traditionally within positivism concepts.

**KEY WORDS:** Reading Process; Reading Comprehension process; Dental Students; Perception; Qualitative Investigation; Cases Study; Written Tests; Structured Interview.

## ABSTRACT

**Objective:** To determine the factors of student desertion in the School of Dentistry of the University of Antioquia. **Materials and Methods:** From 71 deserting students from the period 1997-1 through 2003-1, 50 were interviewed, 16 of these re-entered the program. The research instrument was a different questionnaire for each group to determine social-cultural and demographic variables that could influence student desertion. Questionnaire results were used for further analyses in focal groups. **Results:** Student desertion in the School is a phenomenon that has been increasing in the last 10 years, with the highest peak in 2001 with 18.1% of students deserting and 35.7% re-entering. The greatest desertion was in the fourth semester, with 29.4% deserting and 31.3% re-entering; this could be attributed to initiating the Pediatric Clinic, where students first confront their fears and feel greater management difficulties and responsibility with this age group. Within the extrinsic desertion factors, in a descending order according to relevance, economic factors, moving to another city, public order problems, work-related motives, sickness, need to rest, family motives, sexual harassment, and maternity were found. Within the intrinsic factors, a change of programs because of lack of motivation in not fulfilling their expectations followed by a fear of reducing academic performance are highlighted. **Conclusion:** It is suggested that higher educational institutions offer greater flexibility in their curriculum, particularly in their schedules.

**KEY WORDS:** Student desertion, re-entrance, extrinsic and intrinsic factors.

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## PERIODONTIC

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## ABSTRACT

**PURPOSE:** To develop a clinical and histological evaluation of vertical and horizontal bone augmentation of atrophic alveolar ridges treated with autologous growth factors and fibrin (FGFA) combined with particulate allograft bone (DFDBA). **MATERIALS AND METHODS:** 9 patients were selected between 18 and 65 years of age, with type II and III alveolar ridge deficiency that met the established inclusion criteria. The clinical evaluation of the ridge augmentation in width, height and length was made at base line, one week, 1, 3 and 6 months postoperatively. An osseous biopsy was obtained 6 months of the regenerative procedure (at the implant placement moment) of the regenerated area for histological analysis. **RESULTS:** Significant differences were obtained in height and width of the ridge between the surgical moment and the 6 the postoperative months. The monthly gain in height and width of the ridge was  $2.63 \text{ mm} \pm 0.17$  respectively; this values were stable during months 3 and 6 postoperatively. The histological analysis showed osseous formation with osteocytic lacunae, vital osteocytes, thin lines of osseous apposition, havers's canals, osteoblasts and several areas of osteoid formation indicating new osseous formation. **CONCLUSION:** After using FGFA combined with bone allograft DFDBA, the ridge augmentation in height and width made possible the endosseous implant placement in the esthetic zone of 4 patients with alveolar ridge deficiency, indicating that this technique offers a viable and successful therapeutic alternative in the implant therapy.

**KEY WORDS:** Deficient alveolar ridge, allograft (DFDBA), autologous growth factors and fibrin.

## ABSTRACT

**PURPOSE** The present study pretends to determine the effectiveness of the coronally positioned flap with or without the application of autologous growth factors and fibrin to cover gingival recessions. **MATERIALS AND METHODS** Phase II controlled clinical study was conducted with 40 buccal class I recessions randomly distributed in test group and control group, the patients met the eligibility criteria. The variables were clinical attachment level, degree of gingival recession, degree of final root coverage, surgical technique, and time. Patients received basic periodontal therapy 15 days before the surgical procedure and at days 0, 35, and 60. Sulcus depth, clinical insertion level, and recession were measured. The recessions were treated with the coronally position flap technique with (Test group) or without (Control group) growth factors. A Kolmogoro-Smirnov non parametric test was applied with  $p=0.05$ . **RESULTS** The clinical attachment level in the test group at day 60 had an average gain of  $2.55 \text{ mm} \pm 1.146$ , for the control group the average gain was  $2.20 \text{ mm} \pm 1.196$ . The final coverage in the test group in average was  $2.45 \text{ mm} \pm 1.099$  for the test group and  $1.90 \text{ mm} \pm 1.021$  for the control group. No statistically significant differences were observed between the two techniques ( $p = 0.05$ ) **CONCLUSIONS** In the majority of the cases treated, independently of the technique a satisfactory root coverage was observed 60 days of clinical observation.

**KEY WORDS:** marginal recession, growth factors, autologous fibrin



## ABSTRACT

Interleukine-1 is considered one of the most important factors in periodontal disease progression. It could be produced by different immunocompetent cells including monocytes (Mo) and B lymphocytes (LB) with different implications for each of these cells regarding the cytokine profiles present in the environment at the time of cell activation. In addition, IL-1b polymorphisms have been described in relation to patient's susceptibility to periodontal disease. **OBJECTIVE:** Quantify the IL-1 production from peripheral blood Mo and LB from periodontally healthy/gingivitis (H/G) individuals and patients with Chronic (CP) and aggressive periodontal disease (AgP). **MATERIALS AND METHODS:** Mo and LB were obtained from PBMC by positive selection with magnetic beads anti-CD14 and anti-CD19, and cultivated with LPS (1 $\mu$ g/ml). IL-1 production in supernatants was measured by ELISA test. **RESULTS:** LB from H/G group showed the highest baseline IL-1 production (P=0,002); in response to LPS up regulation of IL-1 was significant only in CP patients (P=0,0361). After LPS activation, Mo produced more IL-1 than LB in all groups. **CONCLUSIONS:** Baseline levels of the cytokine did not explain the susceptibility to produce more IL-1 in CP patients. The lower IL-1 production by LB in CP patients may represent a secondary immunosuppression caused by the disease. Because of the high IL-1 $\beta$  baseline production, Mo seems to be in a more activated stage than LB.

**KEY WORDS:** B lymphocytes, Monocytes, IL-1, Periodontal Disease,

## ABSTRACT

**Objective:** To find out if any of the social demographics elements, signs and symptoms, clinical parameters and the microbiological characteristics, could be possible predictors of the type of response to Conventional Initial Periodontal Treatment (CIPT). To evaluate the response of a second alternative therapy (with antibiotics) for "poor" responders and to follow the "good" (GR) and the "poor" (PR) responders for two years. **Methods and Materials:** A total of 55 of 69 that started, were clinically evaluated at 0, 3, 6, 12, 18 and 24 months. The loss or gain of clinical in attachment was compared throughout the study, at patient and site level. Samples of microbial flora were taken from six sites at initial, 6 and 18 months. *Chi square* and *t student tests* were used at a level of 5% significance to compare means values throughout the study. Uni, bi and multi-variable regression analysis was performed to find out the possible predictor (s) to CIPT. **Results:** The main changes in attachment level after three months allow to classify in "good" (GR 57, 82.6%) and "poor" (PR 12, 17.4%) responders groups. None of the clinical variables showed a significance difference that allow to anticipate the treatment result, except for the plaque index (PI) that was e" 2 in the 100% of the PR. The two years follow up period showed that the PR had a similar evolution that the GR, perhaps due to the positive effect of the alternative therapy, both groups were stable in their levels of attachments. *Porphyromona gingivalis*, *Porphyromona sp* and *Prevotella intermedius* were the most prevalent bacterial species. The 45% (31 of 55) of the GR and 78% (7 of 9) PR show the presence of enteric rods in their cultures. There were also high resistances to metronidazole.

**KEY WORDS:** Conventional initial therapy, alternative therapy, level of epithelial and connective tissue attachment.



## ABSTRACT

**Objective:** This study aims to identify gender and species of microorganisms that are present in the crevicular fluid of gingivitis-diagnosed school children. **Materials and methods:** A descriptive study with 30 gingivitis-diagnosed school children (6 to 10 years old) residing at Commune 1 in the city of Manizales, Colombia, was carried out. The Löe and Silness (1963) criteria were followed to make the diagnosis. Previous antibiotic treatment (6 months), previous periodontal treatment (6 months), systemic compromise and orthopedic treatment were the exclusion criteria. A convenience sampling was implemented. By using paper cones Nr. 30, a sample of crevicular fluid was taken from every child selected, which was then inoculated and incubated in anaerobic conditions. **Results:** The most common bacteria were: *Porphyromones gingivalis* (18.5%), *Peptostreptococcus* spp (18.5%), *Actinomyces israelii* (12.9%), *Actinomyces odontolyticus* (12.9%), *Prevotella intermedia, melaninogenica* and *Prevotella oralis* (9.25%), as well as *Veillonella parvula* (11.1%). According to severity, the most frequent microorganism in slight gingivitis was *Actinomyces israelii*, in mild gingivitis, *Porphyromones gingivalis*, *Actinomyces odontolyticus* and *Staphylococcus sacharolyticus*. *Porphyromones gingivalis* and *Veillonella parvula* were found in the severe gingivitis. No statistically significant differences were found in connection with the number and type of bacteria identified. **Conclusions:** Gingivitis microbiota in children consist of different bacterial complexes according to Socransky's classification. *Porphyromones gingivalis* was found in one third of the children, a fact that requires special attention, as this microorganism has been identified to be the cause of a serious infection<sup>2</sup>.

**KEY WORDS:** Microbiology, Gingivitis, Children.

## ABSTRACT

People are not all equally susceptible to periodontitis. To understand the epidemiology and natural history of this disease, it is important to study populations with varying genetic backgrounds and environmental exposures. The purpose of this article is to describe clinical and microbiologic the periodontal condition of adult people from the community Momifue Monilla Amena in Leticia Amazonas. A cross-sectional evaluation of 20 subjects aged 18-68 years was conducted. Gingival index (GI), plaque index (PI), bleeding on probing (BOP), Pocket depth (PD), clinical attachment level (CAL) was assessed. Microbiologic subgingival samples were taken of deepest pocket of each subject, they were cultured and analyzed by PCR for *Porphyromonas gingivalis* and *Tanerella forshytia*. All subjects presented gingivitis, the prevalence of periodontal disease was high but the level of severity was light. In microbiological cultures were found *Porphyromonas gingivalis* 0.10%, *Prevotella intermedia/nigrescens* 0.50%, *Campylobacter rectus* 0.45%, *Eubacterium species* 0.05%, *Fusobacterium spp* 1.67%, *Eikenella corrodens* 0.10% and Gram (-) enteric rods 32.40%. By means of PCR was positive only for *Porphyromonas gingivalis* in 8 of 20 subjects evaluated (40%). In this community was observed that the prevalence of periodontal disease was high but the level of severity was mild. This is not corresponding with the high presence of dental plaque and local irritating. A high proportion of Gram (-) enteric rods was detected by culture.

**KEY WORDS:** Periodontitis, prevalence, microbiologic cultures, PCR, Amazonian natives



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### ANTIMICROBIAL PROFILES OF PERIODONTAL PATHOGENS AND UNUSUAL MICROORGANISMS FROM COLOMBIAN PERIODONTITIS PATIENTS

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#### ABSTRACT

*In Vitro* antimicrobial susceptibility of microorganisms associated to periodontitis has showed different results among different populations. In Latin America, few studies have described antimicrobial susceptibility of periodontopathogens, and unusual organisms such as Gram negative enteric rods. This study determined antimicrobial susceptibility of 5 periodontal pathogens isolated from healthy and periodontitis Colombian patients for 6 commonly used antimicrobials as adjunctive therapy in periodontal disease. Susceptibility of selected Gram negative enteric rods was also evaluated. Antimicrobial susceptibility of *Actinobacillus actinomycetemcomitans* (n=23), *Porphyromonas gingivalis* (n=74), *Prevotella intermedia/nigrescens* (n=38), and *Tannerella forsythia* (n=8) isolated from subgingival samples of 206 patients with chronic or aggressive periodontitis and healthy patients was evaluated by using the E-test® to determine Minimal Inhibitory Concentration to tetracycline, ciprofloxacin, amoxicillin, metronidazole, azithromycin and clindamycin. Gram negative enteric rods (n=115) were tested for antimicrobial susceptibility to tetracycline, ciprofloxacin and amoxicillin. High antimicrobial susceptibility of periodontopathogens was found to all tested antimicrobials. *A. actinomycetemcomitans* showed resistance to metronidazole and clindamycin. Enterobacteriaceae family showed high resistance levels to amoxicillin; however they were susceptible to ciprofloxacin. The high susceptibility of periodontopathic organisms to tested antimicrobials supports the use of a combination of amoxicillin and metronidazole as adjunctive therapy in the treatment of periodontitis patients. Nevertheless in patients with unusual microorganisms as Enterobacteriaceae, the use of ciprofloxacin can be advised due to their high resistance to amoxicillin.

**KEY WORDS:** Chronic periodontitis, aggressive periodontitis, antimicrobial susceptibility, E-test®, periodontopathogens, unusual microorganisms.

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### PREVALENCE OF GINGIVAL RECESION IN PATIENTS ATTENDED IN THE ORTHODONTICS PROGRAMS OF THE DENTAL SCHOOL AT THE UNIVERSITY OF CARTAGENA IN THE YEARS 2004 AND 2005.

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#### ABSTRACT

Orthodontics has turned into a necessity for society due to the fact that everybody wants to have straight teeth. Some of them aware of the consequences of having teeth in an incorrect position and others simply by esthetics. Gingival recession is a periodontal alteration commonly found in patients with or without orthodontic treatment. Its etiology includes multiple factors among which orthodontics is stated but not clearly established. In this study, which is of observational type, with transversal prevalence and with a quantitative focus, was established the prevalence of gingival recession in patients attended in the program of orthodontics of the dental school at the University of Cartagena in the years 2004 and 2005. An aleatory stratified sample of 102 patients, between ages of 9 and 45 years received a clinical periodontal examination. In general terms, gingival recessions appeared in 54% of the evaluated patients, with a major prevalence in men, having the type I recession the higher prevalence, and the lower jaw the most affected. Gingival recession appeared in a considerable manner. This is a reason why it should be ensured a permanent relationship between periodontics and orthodontics, establishing an integral treatment in order to guarantee the success and welfare of the patients that are treated.

**KEY WORDS:** Relationship periodontics-orthodontics, Periodontal Disease, Orthodontic Techniques, Gingival Recession.



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## COLOMBIANS DEMOGRAPHIC, CLINIC AND MICROBIOLOGICAL ASPECTS IN CHRONIC AND AGGRESSIVE PERIODONTITIS

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## ABSTRACT

**Background:** The microbial profile of periodontal disease is diverse among different human populations. This study evaluated demographic, clinical and microbiological aspects of periodontitis in a multi-geographical sample of Colombia. **Methods:** 325 patients with chronic periodontitis (ChP), 158 with aggressive periodontitis (AgP) and 137 healthy-gingivitis controls from 5 regions of the country were studied. Clinical, microbial and sociodemographic data of subjects was collected. Microbiological identification was performed using PCR 16S rRNA gene on pooled subgingival samples, and the presence of Gram negative enteric rods was evaluated by culture. Bivariate and multivariate logistic regression analyses were conducted. **Results:** *P. gingivalis* occurred in 71.5 % of individuals with periodontitis, *T. forsythia* in 58.5 %, *C. rectus* in 57.5%, *A. actinomycetemcomitans* in 23.6% and enteric rods in 34.5%. *P. gingivalis* was more common in both ChP, odds ratio (OR) 10.16 (confidence interval (CI) 95% 3.39 - 30.50) and AgP, OR 9.45 (CI 95% 3.15 - 28.37) than controls. *T. forsythia* increased significantly in ChP, OR 65.72 (CI 95% 12.64 - 341.50) and in AgP, OR 59.43 (CI 95% 11.28 - 313.30). *A. actinomycetemcomitans* increased in AgP compared to the controls, OR 6.40 (CI 95% 1.77 - 11.6) and with ChP OR 2.17 (CI 95% 1.12 - 4.19). *T. forsythia* was more common in the Eastern region, OR 2.18 (CI 95% 0.96 - 4.95) and decreased in the West-Pacific region, OR 0.37 (CI 95% 0.20 - 0.71). *C. rectus* y *E. corrodens* had a low presence in the West-Pacific and Central regions, and enteric rods were present both among individuals with periodontitis and the controls and increased in the Central region ( $p < 0.05$ ). Other sociodemographic factors were not associated with these microorganisms. **Conclusions:** The geographical region does influence the periodontal flora in a Colombian population. *P. gingivalis*, *T. forsythia* and *C. rectus* are the most prevalent periodontopathic microorganisms in Colombia. *A. actinomycetemcomitans* was more common in AgP and a great percentage of the population studied had enteric rods in the subgingival plaque.

**KEY WORDS:** periodontitis, subgingival microbiota, aggressive periodontitis, chronic periodontitis, *Porphyromonas gingivalis*, *Tannerella forsythia*, *Actinobacillus actinomycetemcomitans*, Gram negative rods.

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## BACTEREMIA INDUCED BY SCALING AND ROOT PLANNING IN PERIODONTAL PATIENTS AND THEIR ASSOCIATION WITH SUB-GINGIVAL PLAQUE.

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## ABSTRACT

**Background:** Current information regarding the incidence of periodontopathic microorganisms during bacteremia in patients with periodontal disease is limited. Research has not established the association between the presence of microorganisms in peripheral blood during bacteremia and the quantity of microorganisms in subgingival plaque. **Materials and Methods:** 42 patients with severe generalized chronic periodontitis and generalized aggressive periodontitis were included in the study. *P. gingivalis* was detected in subgingival plaque in all the patients before treatment. Four samples of peripheral blood were taken from the cubital vein at different times. The association between the presence of *P. gingivalis* in blood and the concentration of this microorganism in subgingival plaque was investigated. **Results:** Bacteremia was caused by anaerobic microorganisms in 80.95% of the patients, and it occurred more frequently immediately after treatment. However, 30 minutes after treatment, 21.42% of the patients still had microorganisms cultured from blood samples. The microorganisms more frequently found were *P. gingivalis* and *Actinomyces* spp in 28.57%. *P. micros*, *P. acnes*, *Campylobacter* spp *Fusobacterium* spp, *Capnocytophaga* spp, *E. corrodens*, *T. forsythia* and *Prevotella intermedia* were often isolated in less concentrations. The presence of *P. gingivalis* in blood was not significantly associated with the quantity of this microorganism in subgingival plaque, mean value of ( $P > 0.05$ ). **Conclusions.** The incidence of anaerobic microorganisms during bacteremia was high in patients with periodontitis, although the presence of viable bacteria in blood was not associated with the quantity found in subgingival plaque. Further research should investigate other mechanisms to establish factors that favor the passage of microorganisms to the peripheral bloodstream.

**KEY WORDS:** Bacteremia, *P. gingivalis*, Scaling and root planning, Cardiovascular disease, Periodontal disease.



## ABSTRACT

**PURPOSE:** The purpose of the present study is to evaluate the regenerative potential of autologous growth factors and fibrin membranes with local application of Doxycycline in 20mg dose, in patients with destructive periodontal disease. **METHODS:** 162 periodontal sites were treated in 30 to 65 years old patients with chronic periodontitis. The patients were assigned randomly to 3 modalities of surgical treatment: 1. Open flap and scaling and root planning (OFD), 2. GTR with FGF membranes, and, 3. GTR with FGF membranes with local application of Doxycycline 20mg (FCFD). All patients receive initial therapy: Oral Hygiene Index (OHI), plaque control, S/RP, control of the occlusal trauma and decay. Clinical parameters as periodontal probing depth (PD), clinical attachment level (CAL), bleeding on probing (BOP), suppuration (S) and mobility (M), infrabony defects (ID) and furcation involvements (FI) were evaluated at the baseline, 1, 3 and 6 months. Radiographical evaluation of the bone filling (BF) was evaluated to the baseline at 6 months postsurgically. **RESULTS:** Statistical Anova and t-Student analyses were used for PD, CAL, BOP, S and M analyses. Estimation of averages and its respective confidence intervals were performed (95%) for bone filling. A significant clinical improvement in PS, AL and bone filling were found when FGF and FGFD 20 mg membranes were applied to all treated defects. Clinical differences were found in the reduction of PD when using a regenerative technique with FGF membranes ( $3.89 \pm 1.33$  mm) and FGFD 20 mg ( $3.55 \pm 0.89$  mm) in comparison with OFD ( $2.76 \pm 1.13$  mm). CAL gain was found using FGF (SD  $2.48 \pm 1.84$  mm) and FGFD 20 mg (SD  $2.61 \pm 1.22$  mm),  $P < 0.001$  versus OFD  $1.28 \pm 1.4$  mm, ( $P < 0.05$ ) respectively. Bone filling of infrabony and furcation defects were observed radiographically. **CONCLUSIONS:** The regenerative potential of autologous growth factors and fibrin were evidenced. A significant clinical improvement in probing reduction, gain of clinical attachment and bone filling were found independently of the local application of Doxycycline 20 mg.

**KEY WORDS:** Periodontal tissue regeneration, tissue engineering, growth factors, bone defects, furcation involvements, Doxycycline



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## PROSTHODONTIC AND DENTAL MATERIALS



## ABSTRACT

Osseointegration has shown a high rate of success in restorations with endosseous implants. Usually it has been used pure commercially titanium implants or alloys (Ti6Al4V). Bone structure, implant stability and macroscopic characteristics of implants are essential to get an ideal osseoint. Surface modified implants show greater initial bone anchorage and more bone contact percentage than machined surface implants. **Objective:** Undertake a clinical and radiographic evaluation between two different patient groups: machined versus modified surface, to find out if there is statistically significant difference that support the use of implants with different surface properties. **Methods and Materials:** Sixty screw, external hex connection implants, *Lifecore*®; were examined: one group with 30 machined surface implants (*SuperCAT*®), and a second group with 30 implants with modified surface (*RBM*®), for restoring a single tooth. The surgical procedure was performed, according with the manufacturer's protocol. After six months the second phase surgery was performed and the temporary restoration was placed. At this point, the first radiographic evaluation was made. Parameters described by Roos et al. (1997), were followed for the clinical and radiographic evaluation. **Results:** A 100% of osseointegration was accomplished in both groups. The average marginal bone loss was 0.78 mm, without significant differences between the groups. All implants were reported as success grade 1, with no complications. **Conclusion:** There are not significant differences between the two groups of machined and modified implant surfaces for single tooth restoration.

**KEY WORDS:** Osseointegration, Implants, Titanium, Machined surface, Modified surface, Roughness surface.

## ABSTRACT

**Introduction:** In the last days, there are a tendency to simplify the clinic techniques of what has taken to the development of the self-etching system. These adhesives systems, decrease the clinical time in self-etching to the dental substrate. **Objective:** The purpose of the present study was to establish the shear bond strength on enamel and dentin using three self-etching adhesive systems. **Materials and Methods:** Seventy healthy premolars teeth extracted by orthodontic reasons and donated under informed consent were used. Four groups were made: Adper Prompt-LPop (3M ESPE)(N=20), Futura Bond NR (Voco)(N=20), AdheSE (Vivadent)(N=20) and a control group Single Bond 2 (3M ESPE)(N=10). Flat surfaces were made on superficial enamel and median dentine. The adhesive area was 1.5 mm<sup>2</sup> by means of a self-adhesive tape. Once applied the adhesives systems, a polyvinyl cylinder of 2 mm was placed as a matrix to put the respective composite. After 24h storage in an atmosphere of 60% of relative humidity at 37° C, the teeth were under shear loads using the universal machine INSTRON 1011 at a crosshead of 1mm/min. **Results:** The statistically test used were ANOVA, LSD'S T and DUNNET'S T. There was no difference between substrates but it showed statistically differences between the conventional treatment of acid etching and the self-etching and among them (p<0.0001).

**Conclusions:** Under the conditions of this study it can be conclude:

1. The acid etch crates bigger values of bond that the self-etching systems as much in enamel as in dentin.
2. There are differences in the values of bond among the self-etching systems.
3. The adhesives behavior of the self-etching in dentin and enamel show difference.

**KEY WORDS:** Self-etching adhesives, adhesive, shear bond strength.



## ABSTRACT

**INTRODUCTION:** In the literature exists 2 techniques for preparing ceramic paste, the incremental incorporation of liquid to the powder and the slurry consistency obtained from the total mixture of powder and liquid with weight proportion. The final consistency of the ceramic paste in both processes is different due to the variability that the operator incorporates in the process. **OBJECTIVE:** The objective of this study was to evaluate the structural reliability of the molds obtained by 2 different methods when preparing the ceramic paste (powder-liquid and slurry paste) using feldspathic ceramic Vita Omega 900. **MATERIALS AND METHODS:** Porcelain dentin Vita Omega 900 discs were made (15mm in diameter and 2 mm thick). The average standard deviation and the weibull modulus was calculated to 100 discs prepared both ways (powder-liquid and slurry paste) using a biaxial flexure test. **RESULTS:** The mean average was  $74,61 \pm 16,35$  ( $m = 6,74$ ) for the powder-liquid group and  $69,72 \pm 12,71$  ( $m = 4,949$ ) for the slurry consistency group when comparing these two ways of preparing the slurry consistency paste. No significant differences were found between them respecting flexure. **CONCLUSIONS:** There were no significant differences between both groups after performing the biaxial flexure tests, but still the slurry consistency technique showed less resistency and a less weibull modulus which means that there exists an increase of the heterogeneity of the microdefects and a behavior of less predictable few it.

**KEY WORDS:** dental ceramic, Biaxial flexure, weibull modulus.

## ABSTRACT

**PURPOSE:** Evaluate the distribution of tangencial forces on the simulated anterior teeth treated endodontically, depending on the axial walls and the type of post. **MATERIAL AND METHODS:** Three tridimensional parametric models were done on the computer with the ANSYS program, which simulated a central upper incisor, dentin, trabecular bone, periodontal ligament, gingiva and guttapercha. The posts used were made of fiber glass and titanium, the luting agents used to place the posts were, composite cement for the fiber post and zinc phosphate for the titanium post, The experimental groups were: Three groups with intra-radicular fiber post cemented with composite cement and three groups with intrarradicular titanium post cemented with zinc phosphate cement. Every group had three different preparation designs of ferule effect  $180^\circ$  lingual, ferule effect  $180^\circ$  buccally and ferule effect of  $360^\circ$  **RESULTS:** Whatever the type of tensile or compressive deformation (von Mises), the greatest stress was observed in the radicular dentin with the lingual ferrule effect of (387Mpa), for the two types of posts. For the titanium post the ferrule effect placed buccally was of (55Mpa) as well for the fiber post, and 53MPa for the titanium post without differences with ferrule effect at  $360^\circ$ . **CONCLUSION:** The ferrule effect at  $360^\circ$  is the least adverse at the remaining structures, being the ideal design. When it is not possible to make a ferrule effect of  $360^\circ$ , it is recommended to have the ferrule effect buccally to have the force distribution at the most superior area of the root (Radicular dentinal area)

**KEY WORDS:** Ferrule, stresses, von Mises, retainer, parametrical model.

## ABSTRACT

**INTRODUCTION:** In the design of removable dentures to restore partially edentulous inferior areas, classified as Kennedy class I, it is being a matter of discussion the kind of retentive systems and its biomechanical effect upon abutment teeth and residual ridge. There are two opposite schools of thoughts hereby called "Rigid" and "Resilient". **POURPOSE:** The aim of the study was to compare the strain and displacement distribution in two computer simulated denture designs, both with two bilateral abutment teeth (canine and first premolar), the most distal of them with ERA® straight attachment retaining a partial removable denture, one rigid and the other resilient. **METHOD:** Using an ANSYS program it was simulated and analyzed: 1. A resilient model, supported by two abutment teeth with attachment, without milling support, or 2. A rigid model with two abutment teeth, milling the crowns to provide support, to the removable denture. Simulated charges (196N y 176 N) were applied to the prosthetic teeth. **RESULTS:** The tissue displacement was higher in the resilient model, at the prosthetic base area, both in the vertical direction towards apical and horizontal towards vestibular area. The highest strain values were generated as expected in the attachment area of the first premolar of the resilient design, while in the rigid model the strain was evenly distributed in the milled bed. **CONCLUSION:** The rigid design provides a better strain distribution and lower base displacement than the resilient design.

**KEY WORDS:** Partial removable dentures., Finite element, Attachments, Load, Displacement.

## ABSTRACT

**Introduction:** use of dentures lead to inflammation of soft tissues, it is necessary to treat this entity before making a new prosthesis, soft materials must be changed lot of times in order to maintain their qualities, increasing the cos of treatment and affecting the existing dentures. **Purpose:** to determine if there exist any difference in the resolution of sub-prosthesis stomatitis (ss) through clinical examination after a month's treatment with tissue conditioner and auto polymerizing reline material. **Methods:** participants were 32 users of upper complete dentures, suffering of ss, who attended the dental clinics of the national university of colombia during the year 2005. it was taken a frotis of their palates to determine the presence of candida albicans. an oral pathologist made a classification of the severity of the ss. the dentures were used to divide the palate into two halves, applying tissue conditioner in one halve and auto polymerizing reline material in the other one (coe comfort and kool liner g,c). two dentists, previously calibrated in the classification of the ss., made, during four weeks, an evaluation of the clinical situation, they did not know which material were applied in each halve. at the same time, pictures were taken during each evaluation. materials were changed each week during the period of treatment. **Results and conclusions:** both materials re-feet the prosthesis on soft tissues solving or diminishing the severity of the ss., with out significant differences between them. auto polymerizing reline material is an alternative material to treat ss.

**KEY WORDS:** sub-prosthesis stomatitis, tissue conditioner, auto polymerizing reline material.



## ABSTRACT

At the present time implants are the first option of treatment in the cases of losses of a unique teeth. Economic factor and surgical possibilities sometime make impossible the use of implants. Therefore, the use of Maryland type bridges becomes a real alternative because its low cost and conservation of dental structure. The objective of this investigation was to evaluate the effect that the grooves of the abutment have on the retention of the Maryland type bridges and to compare them with a group without any type of preparation. A total of 53 upper anterior teeth were used and distributed as follow: 18 central, 12 lateral and 23 canines. They were divided in two groups (group A with grooves and group B without grooves). Cast base metal retainers were cemented with resinous cement. The teeth were put to test under an Instron machine. Group A reported a minimum of 15.1N and a maximum of 647.1N with an average of 211.6N. Group B reported a minimum of 17.8N and a maximum of 408.4N with an average of 156.4N. A Mann-Whitney test were performed to analyze the results. There is no significant difference that prove that abutments with grooves are more retentive than abutments without grooves according to this size sample. It is recommended to duplicate the size of sample to obtain more conclusive data.

**KEY WORDS:** Maryland bridges, retention.

## ABSTRACT

**Purpose:** To evaluate the shear bonding strength between a core build-up composite material to a fiber reinforced prefabricated post depending on the surface treatment of the post. **Materials and Methods:** This was an experimental *in vitro* study. The sample size was 50 fiber reinforced prefabricated post. These posts were divided in five surface treatment groups: Group 1: control, no surface treatment only bonding agent, group 2: Hydrofluoric acid HF9-12 /30seconds + Silane coupling agent + bonding agent, group 3: Phosphoric acid + bonding agent, group 4: Air bure abrasion 37% with Aluminum oxide 50 $\mu$ m bonding agent, group 5: Diamond bur drilled + bonding agent. The core material was dual activated heavy filled resin cement (multicore). All specimens were tested using an Instron Machine applying a compressive load but utilizing a push out test. The result were analyzed with ANOVA test with a one way *p* value <0.05. **Results:** There were statistical differences among the groups (*p* <0.05). The shear bonding strength between the core and the fiber posts were: group 1. **Conclusions:** This study showed that a surface treatment is necessary to improve significantly the bonding between a core and a fiber reinforced post. The HF 9-12 30 seconds was the best surface treatment; however air bure abrasion is the recommended treatment. The air bure abrasion showed higher bonding strength and also it is a reliable method to treat the surface of the fiber post.

**KEY WORDS:** Fiber reinforced post, surface treatment, core build-up composite material, bonding strength.

## ABSTRACT

**Purpose:** The purpose of this study was to evaluate the fracture strength of different designs of highly dense sintered alumina copings fabricate by technology CAD-CAM. **Methods and Materials:** Forty alumina Procera® crowns were fabricated. The groups included for this study were: Group 1 (Control group) no design was made, Group 2 (MD Group). A mesial (M) and distal (D) reinforcement was made on the copings. Group 3 (BL Group) A Buccal (B) and Lingual (L) reinforcement was made on the coping, Group 4 (MDBL Group) A Meso-Distal-Buccal-Lingual reinforcement was made on the coping. Then, all the copings were completed with feldspathic porcelain to obtain a standardized anatomic crown form. All the Procera® crowns were cemented to a standardized steel abutment using glass ionomer modified with composite cement. All the crowns were loaded using continuous load with a testing universal machine (Instron) with a 30° angle. Furthermore, all the samples were evaluated for their shock absorbing capacity with 3D finite element analysis. **Results:** The one way ANOVA test showed significant difference in fracture strength between the groups with reinforcement and the group without reinforcement. These results were similar with the 3D finite element analysis. The mean and SD of the groups were: Group 1: (1, 81 ± 0, 75), Group 2: (2, 81 ± 0, 72), Group 3: (3, 05 ± 0, 66), Group 4: (3, 00 ± 0, 55). **Conclusions:** There were significant differences in fracture strength between Procera® alumina crowns fabricated including a coping design and crowns fabricated without any coping design. The three different designs did not show statistically differences in strength. However, there were differences between designs that could be clinically significant.

**KEY WORDS:** Fracture resistance, All-ceramic crown, CAD-CAM, Coping, Procera crown.

## ABSTRACT

The structural reliability is one of the main objectives pursued in the systematic fabrication of the dental ceramic products. The application of electromagnetic energy of the microwave type in the process of pre-drying of dental ceramics presents an attractive option to explore as a strategy of improving upon the mechanical properties of final pieces, and at the same time for diminishing the time of processing and for saving of energy. **Objective:** to compare the resistance to flexion of a feldspathic ceramic submitted to pre-drying via microwaves previous to the sintering with respect to a control group. **Methods:** Under a test of biaxial flexion 75 ceramic discs were broken. The ceramic disc divided themselves in three identical groups that correspond to the control group with no pre-drying via microwaves, a group pre-drying via microwaves in a single cycle of 10s, and a group pre-drying via microwaves in three cycles of 10s with intervals of 1 min among themselves. All pre-drying via microwaves were done using a conventional microwave oven. Discs were polished and evaluated with Biaxial flexural test. **Results:** The results of asymmetrical analysis using Weibull model do not present differences with respect to the characteristic effort found: 59.47Mpa, 56.07Mpa and 57.09Mpa for groups I, II and III respectively. The highest of Weibull module found I the group pre-treatment with microwaves during 30s (6.51) presents a more uniform group of ceramic discs and with more structural reliability. **Conclusion:** To suggest a standardized protocol of ceramic processing that allows the obtainment of more similar pieces, and with less probability of failing because of microflaws.

**KEY WORDS:** Feldspathic ceramic, pre-drying, microwaves, structural reliability.





## ABSTRACT

The restoration of endodontic treated teeth is a broadly studied and quite controversial topic that has generated confusions and theoretical scientific holes that can lead the operator to choose the less appropriate treatment with high failure probability. With the purpose of structuring dispersed information in historical documents, it is allowed to give a theoretical meaning to have to a global understanding on the topic. The development of new materials in the modern dentistry has allowed that an endodontic treated teeth has considered as an organ with excellent capacity to be able to be reinstated to its masticatory functions and aesthetic approach a rehabilitation more reliable, economic and easy when it's going to be restored. Nevertheless, these procedures require technical, biological knowledge, experience and talent of the operator due to the number of factors that take place in the long term prognosis of these teeth and that they should be previously analyzed before proceeding to their restoration. In spite of the big advances in this matter, it is important to emphasize those controversies, doubts and some parameters that have not been thought about, until the present, which could be important matter for future investigations.

**KEY WORDS:** Endo-prosthesis, hermeneutic, Changes, controversy.

## ABSTRACT

**Introduction:** Some empirical procedures in dental laboratory are used to prepare barbotine in high volumes. This mix are stored at (-4°C) for posterior use in patients with the purpose of minimizing the production costs of dental In-Ceram restorations. However, limited information exists on the possible effects this practice has on the mechanical behaviour of the material. **Objective:** The purpose of this study was to compare structural reliability of discs obtained by two different ways of storing barbotine (day 0 and day 30) using aluminium oxide infiltrated with glass. **Materials and Methods:** 50 aluminium oxide infiltrated with glass discs were fabricated (20 mm diameter and 2 mm thickness) divided in two groups according storing time of barbotine (0 and 30 days). The discs were polished and evaluated with biaxial flexural test. The symmetrical and asymmetrical analysis was studied using Weibull model for groups. **Results:** The characteristic strength obtained was 372,77 MPa (m= 4,07) for the group 0 days and 333,67 MPa (m=3,80) for the group 30 days. Comparing the two times of storing barbotine was found that exist statistically significant differences respect strength of the material.

**KEY WORDS:** Barbotine, Biaxial flexion, weibull modulus, characteristic strength.



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## HEALTH AND SOCIETY

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## ABSTRACT

Oral health promotion has a tendency towards early establishment of habits and behaviors to facilitate community integral health. The axis of this model is based on community educational and clinical intervention, in order to evaluate risk factors changes associated to dental caries in an educational setting of the public educational system of Cali. The study was quasi-experimental. The Community intervention approach was based on education about oral health promotion and prevention through oral clinical treatments to cover specific needs of damage protection and limitation. After intervention, changes were evaluated in social, behavioral, epidemiological, educational and clinical variables (plaque index PI and history of dental caries-DMFT). Data was obtained by means of surveys and clinical examinations and the statistical analysis was made with statistical software. 24 boys (58.5%) and 17 girls (47.5%) participated. Clinical manifestations of dental disease did not have significant variations between evaluations, except for gingival bleeding (43,9% to 31.7% decrease). The PI had a reduction of 18% and the DMFT remained stable. This model allowed researchers to identify social, epidemiological, biological and behavioral aspects of the community. Also, the model helped to establish a classification based on classical risk factors, then facilitated to perform individual treatments in the studied population.

**KEY WORDS:** Community intervention, Oral Health, Scholars

## ABSTRACT

**Objective:** To characterize social-demographic aspects and lifestyles of youngsters who belong to various groups in the city of Manizales, Colombia, in 2005. **Materials and methods:** This project was presented to 63 juvenile groups attached to the State Office for Community Development. Two-hundred and sixty-one youngsters out of these groups accepted to process the quest and a convenience sampling was carried out. **Results:** This study will be developed in three stages: descriptive, interpretative and reflexive. This report corresponds to the implementation of the first stage of the macro-project and aims at explaining the behavior of the social-demographic variables according to age, gender, level of schooling and occupation, among others, and at explaining the behavior of the various lifestyles of youngsters from the material, social and ideological perspectives. From the population above mentioned, 25.7% of youngsters are not affiliated to the social security and health systems, 13.8% reported to suffer from a disease, 10% reported to have participated in fightings which entail some danger their lives, many youngsters carry weapons with them, 11.1% have planned to commit suicide and 9.6% of the quested youngsters have tried to commit suicide. **Conclusions:** From the analysis of the material, social and ideological dimensions, it is feasible to note that youngsters are a group that deserves a different present approach of them with reference to violence, school dropping out and delinquency, from the perspective of promotion and prevention on the basis of the familial and community contexts. It is also of importance to work on the strengthening of their social, political and economic development.

**KEY WORDS:** youngsters, lifestyles, juvenile characteristics

## ABSTRACT

**Objective:** To analyze the knowledge about the oral health and sickness of Nelson Mandela's neighborhood population at Cartagena concerning the social situation that they have. **Methodology:** This project was made in a qualitative way. It was based on hermeneutic method implemented with Nelson Mandela's population. Seven families socio economic situation 1-2, with two and nineteen years old were chosen to be part of the investigation. An structured, individual interview and non participate observation of people who take care the child, were used to collect the information, selecting the most important interactions to fulfill the objectives. The analyzed categories were: general health and sickness, prevention, treatment, oral habits and social practices. **Results:** A transcendental aspect founded in this population was the mechanic and memorized knowledge about Teeth brushing techniques; influenced by the media and traditional preventive programs. In this populations is very important the emotional factor too, reflected on the presence of depression and sadness when sickness's signs and symptom are present. From this point of view, this is a very special population, so the dentist should explain in a simple way giving them the knowledge according their own problems and situation. **Conclusions:** Is very important highlight the direct interaction with the community to really know the social aspect and learn about situation they have, in this way, new educative strategies might be design by the future dentist, to get lower plaque range and to learn the right knowledges, to get better oral habits and change people's quality of life.

**KEY WORDS:** knowledge in oral health, social interactions, oral hygiene

## ABSTRACT

**Introduction:** The CES from their beginnings, it outlined like one of the fundamental tasks of an institution of superior education, the service to the community. The Ability of Dentistry has inclined that its students have an approach to the communities of less economic resources through enriching community experiences, for that which advances programs consistent extramurales in clinical attention and education activities and prevention in buccal health, guaranteeing an integral focus that links its theoretical and clinical learning to activities of social type with the pretense of sensitizing them in front of the reality that you/they face in its that to make professional. **Materials and Methods:** starting from 2004, in the 3 programs of the extramural clinical rotations, you began to apply a survey of perception to the dentistry students and the beneficiaries of the services; additional to this a registration of activities was implemented, in which you/they register the activities carried out by each student in the programs. **Results:** 100% of the students considers that the extramural clinical rotations are useful for its vocational training, justifying that: "these practices help them to improve the technique and ability to carry out procedures and to understand each other with the patients", "they can apply that learned" and "it allows them to interact with members of the community." The users perceive the programs that CES offer in the institutions to those that attend as beneficial and opportune. **Summations:** it has been possible to implement in the institutions of practical extramural systems of information that allow to obtain suggestions and ideas for the continuous improvement of the services, to give continuity to these processes it will guarantee the student and the benefitted populations the possibility to consent to programs of quality.

**KEY WORDS:** Extramural clinical rotations in dentistry.

## ABSTRACT

This project wants to watch the handle of solid rubbish and amalgam, wich are producing the Cartagena de Indias Dental Clinic. The proyect found to watch and describe the real situation that this clinic afronts live, for that razon the people who to take part in that are studentns of six to ten semester of dentistry and teachers. 50 person were selected for statistical reasons. The dates are recollected by pollyng. This evaluation have into account the knowledge and handle of residual solids and materials. The results of the proyect shown that the most of the people do not know about the handle of rubbish in Cartagena de Indias Denatl Clinic, furthermore if not implant the security rule in the handle rubbish, and bad handle contribute with pollutions and put their health in risk. In general it can be found a lot fails in the workers of these institution, and for that its necessary to establish a proyect about handle rubbish with participation of interested people, who can help to reduce the health risk wich are the result of a bad handle.

**KEY WORDS:** Solids, Amalgam, gloves, bio-safety, critical puncture materials.

## ABSTRACT

**Objective:** The aim of this study was to evaluate the association between the quality of life (QL) with the oral condition (OC) in the elderly population. **Methodology:** An analytical cross section observacional study was made. The universe was constituted by 101people and the sample by 68 people, who fulfilled the inclusion criteria. The variables of the study were social-demographic; systemic condition, the QL, the OC, the functional physical capacity, mental state, and the social supports In the analysis, summary measures were calculated according to the nature of each variable. Analysis of factors was made to determine the attributes that integrated OC. The exit variable (QL) was related to each other variables by  $c^2$  and Fisher´s exact test, the crude OR and intervals of confidence were calculated. Logistic regression analysis and methods of correction of the OR were applied, the RR were obtained and the goodness of fit of the model was evaluated. **Results:** The quality of life in the elderly registered an average of  $68.7 \pm 19.9$  with rank between 18 and 100. The COP index, the salivary flow and the oral pain were attributes that defined the oral condition; the 63.2% of the population had a bad oral condition. A potential association between bad OC with bad QL of the elderly was seen (RR 1.38 IC95% 0.72-1.97). **Conclusion:** The association to the bad oral condition between quality of life in the elderly is possible; however, this relation can be modified by cultural issues and affected the community and elderly perception are underestimated this relation

**KEY WORDS:** Quality of Life, Elderly, Oral Health



## ABSTRACT

**Objective:** To evaluate the oral state of individuals between 7 and 70 years that live in Zaragocilla neighborhood and their perception about services offered by the Dental School at the University of Cartagena in the year 2006. **Materials and Methods:** A transversal descriptive in prevalence study was realized with a quantitative methodology. This neighborhood have 11.714 inhabitants the sample were 101 individuals chosen by mean of a statistical formula used in descriptive studies. The sample was used in conglomerates. The clinical evaluation was done keeping in mind certain aspects: state of TMJ, occlusion, state of soft and hard tissues, periodontal state, oral hygiene, dental caries and fluorosis. Recollection of information was done by means of a survey. **Results:** In the analysis of the global TMJ state, the articular noise represented the most frequent issue. Class I relation was the predominant occlusion condition. Referring to the condition of soft and hard tissues the most frequent situation were the torus and traumatic ulcers. In reference to the periodontal state, calculus and bleeding were the mostly observed, keeping in mind the state of oral hygiene, high values of plaque were present in the majority of the subjects studies. About the dental caries, a 100% prevalence was obtained, about fluorosis, there was a 38.6% presence in the sample. About the perception of the services offered by the dental school of the university of cartagena, people do not attend with frequency but with a positive opinion about them. **Conclusions:** After epidemiological analysis it was found that the variables analyzed demonstrated presence of oral pathologies in higher proportions compared with other local and national studies, which indicated us the we must implement preventive actions according to the magnitude and severity of the pathologies.

**KEY WORDS:** oral epidemiology, oral health diagnosis, quality in health services.

## ABSTRACT

**INTRODUCTION:** the Public sector scholar population of Santiago de Cali city has been objective of promotion, prevention and treatment actions through in the Scholar Sano program. A buccodental epidemiology profile was decided to realize with the knowledges, attitudes and believes (CACP) analysis of the children to determinated the scholar-children status and the attitudes that must be strengthened. **METHODOLOGY:** for this, a polietapic sample methodology was used combining the conglomerate technique and systematic sample. The examiners were calibrated, the information was taken from 47 educative centers selectioned and the base-data was elaborated in ACCESS program. **RESULTS** in the attitudes, a high percent of identification of mouth like an instrument to realize basic functions like eat, bite, speak and a high incidence of esteem for their teeth was registered. The child consider that the tooth have to during all the life in 60%. For the question when do you go to the dentist? They answered : when I have pain in 32.3% **ANALYSIS** according to the obtained results of the buccodental epidemiologic profile of the Public sector scholar population in the Santiago de Cali respect to the buccodental epidemiologic profile of scholar population in Valle del Cauca (realiced in 1998), we can conclude that the knowledges used by the children in this last years, hadn't been variared in meaningful way. **RECOMENDATIONS:** Continue strongthing the self-esteem and self-body acceptance into the Oral Health education is recomendated.

**KEY WORDS:** Oral Health, Knowledges, attitudes, practices and beliefs.



## ABSTRACT

**OBJECTIVE:** The general objective of this study was to characterize the oral health practice sceneries of the habitants of La Boquilla at Cartagena de Indias 2005. **METHODS:** This project has a qualitative methodological focus using an approximation to the ethnographic. Ten families of the sector were selected with the purpose to obtain useful information for the objective of the study. During a first instance a non participative observation technique for recollection of the information was used as well as structured individual interview, the participative observation and a deeper interview. The categories for analyses were: representations of oral health practice sceneries, representation related with the dental professional, representation of the professional of the health providing institutions related with the community's oral problems. **RESULTS:** During this work it can be understood how the inhabitants of the sector show a degree non-motivation toward individual of collective activities that have relation with oral health. It can be emphasized that other priorities exist such as feeding, work, houses with adequate sanitary conditions, and last general health which includes oral health occasionally. By this way the inhabitants of La Boquilla have a very clear conception of the institutions that are in charge of oral health. They also recognize the local medical center providing as the institution that offers this benefit for learn and prevent diseases, being the main motive for dental appointments the extraction of painful teeth. **CONCLUSIONS:** In this sense we propose an establishment for the acquisition and application of good hygiene habits, among the inhabitants of La Boquilla. This should be done by exchanging knowledge, in a scenary in which the professional respects the thought and opinion of the patient as an additional health alternative. By this way it must be recognized that the social interaction are a permanent source of knowledge production within the communities, and as a consequence, the only way to be aware to this change is to integrate ourselves to this interactive process.

**KEY WORDS:** Social representations, oral health, oral sicknesses, oral health practice sceneries, social ethnography.

## ABSTRACT

The Oral cavity makes function series like chewing, phonation, and deglutition; emotion expressing and determine the individual esthetic. A no equilibrate in that fictions is produced by bacteria plaque that is a soft, mucin and uncolor film that adds on the teeth surface, gingival and the obturations by a bad oral cleaning, producing halitosis, caries, gingivitis and in worse cases periodonthis. The current situation in Colombia makes the parents to work, having to get erlier to the care children places, like kinder gardens and schools. Some of these places whit the ICBF help manage nutritional programs to few poor educational places, it insure the nutritional summinister, and proportioning more facilities in the nutritional issue and the psicosocial scholars development, due to the government support. The Oral promotion and prevention have not been so structured in educational places, it cause the child's high plaque index, principal cause of oral disease and caries, what for the main of this paper is to determinate the knowledge, attitudes, practices and believes about child's oral health to induce places that be pair whit the "Escuela Saludable" ideals.



## ABSTRACT

Taste perceived by humans naturally changes during time periods of development and by the influx of age, emotional conditions, gustative/smell sense and brain/sense diseases. Main objective of this report is to determine variations on taste capability on elder people. A convenience sample conformed by 90 residents attended in 4 institutions were studied. By oral examination it was established tongue surface variations and their taste abilities after tongue cleaning with brushing - 30 subjects, gauze cleaning 32 subjects and without any especial tongue cleaning method – 28 subjects. There were no relationship between tongue cleaning techniques and taste capability in the study elders.

**KEY WORDS:** Taste on elders, Tongue Hygiene, bud sense.

## ABSTRACT

**Abstract Aim:** To reconstruct the social representations that support health culture formation and research in some universities in the city of Manizales, Colombia. **Materials and methods:** This is a descriptive qualitative study that approaches three dimensions that structure Health Culture, that is, the conceptual, contextual and valuative ones. The Health Culture category was defined as the analysis unit, and both oral (interviews) and written texts (scientific articles), the final result of research at every academic program, were defined as the work unit. This unit consisted of key informants (non-probabilistic) according to their status as health researchers or members of the faculty staff at the participating universities. The content analysis according to López (1986) was used for the analysis of the information.

**Results:**

- Contextual Dimension: Formative research is implemented as an academic requisite within the theoretical and methodological guidelines of the positivist paradigm and, with a minor emphasis, within the paradigms stated by Constructivism and Critical Theory.
- Valuative Dimension: The Faculty Staff consider research related to historical and cultural factors of the health-disease process as important as research related to the clinical and biological aspects of the same process.
- Conceptual Dimension: Health is conceptualized as a Process and as a Relation, and Culture is conceptualized as a man's behavior in society (Functionalism) and as Meaning Nets (Symbolic Interactionism).
- Social representation of the Health Culture: It appears as a construction independent from the participants, who take the Public Health and Health Promotion categories to make it part of their daily nature. Social representations, Health Culture

**KEY WORDS:** Social representations, Health Culture.



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**SOCIAL SECURITY AND  
SOCIAL SERVICES**

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## ABSTRACT

**Objective:** The objective of this investigation was to establish how the persons affiliated in subsidiary regime perceived the cost decrease in dental attention in Cartagena de Indias city so if the retrenchment of this has been coverage from others basic necessities. **Methodology:** This survey is an descriptive observational study with retrospective and prospective information. Population reference object was shaped by member head of familiar nucleus in its ARS (Coosalud, Comparta, Emdisalud, Comfamiliar, Caprecom) in Cartagena de Indias city. Population size was established by group numbers or familiar nucleus. Each family was considered for this survey like population total element, the reason of it, is the ownership of minors age groups or people with advance age in this application by survey was obtain with not much trustworthy facts. Besides of that person who are excluded did not receive dental care and affiliated person who have not been family head. **Results:** Outstanding results can be emphasized on the perception fact that the usufructuary subsidiary regime over impact generated by law 100 of 1993 in Cartagena. Over its economy is highly positive. **Conclusiones.** Not only has been permitted the service health oral, described like one of the most expensive of the family fees, but this saves has been good to satisfy the basic needs from human being for example education, clothes, housing, and recreation.

**KEY WORDS:** Law 100 of 1993, Social Security, Dental care fees, Subsidiary Regime.

## ABSTRACT

**OBJECTIVE:** To determine demands and sanctions against the dentists presented in the Dentistry Ethical Tribunal of Cundinamarca Sectional, during the 2002 – 2004 period. **MATERIALS AND METHODS:** 50 files of disciplinary-ethic demands were reviewed, presented in the Cundinamarca Sectional Dentistry Ethical tribunal, during 2002-2004. Also taking into consideration the type of sanctions proclaimed. **RESULTS:** The applied variables corresponding to this study produced results such as that the age varied between 25-55 years of old; in gender 62% corresponded to male and 38% to the female gender. The group with more number of demands were the general dentists with 56%; continued for maxillofacial surgeons with 16%. Respect to the type of complaint, the percentage more high was the inexperience with 44% continued by the negligence with 30%. With regard to the conciliation, the 64% not realized conciliation. **CONCLUSIONS:** The results of reviews lend to see the risk to what be exposed the dentist if not takes necessary measures to prevent the occurrence of demand, now for the complaint of norms what require the exercise of profession or for the ignorance in both cases.

**KEY WORDS:** Demands, Sanctions, Dentistry Ethical Tribunal.

## ABSTRACT

**Introduction:** The Programs of Health should involve the individual and their family in the environment that are unwrapped and more when diverse sociocultural realities are present. In this sense the program of integral health for the childhood (SIPI) offers a multidisciplinary educational base in areas of the health that guides the child population's companions of 0 to 5 years in the development of healthy habits from the first years of life. **Materials and methods:** The purpose of this study was to evaluate the knowledge acquired in buccal health of 178 companions that attend the SIPI during the first year of the boy's life in a health provider institution of Medellín, by means of a survey of perception that consisted of 10 questions of personal information and about the program, and 10 of knowledge it has more than enough oral health that were classified in the following age groups: 0-3 months, 4-6 months, 7-9 months and 10-12 months. **Results:** The educational chat considers as didactic but utilized method to impart knowledge in buccal health (77%). Regard to the knowledge, 70.9% of the companions of the group of 10-12 months they had a good level, the group of 7-9 months presents a level of good knowledge (66.6%) and at the time the biggest level of bad knowledge (17.9%). **Conclusions:** The acquired knowledge during the program were similar independent of the group of the boy's age; and according to the results it can be stated that the answers were based on previous knowledge to the participation of the same one, in and of itself a bigger protagonism should be given in the program to the area of buccal health.

**KEY WORDS:** Education in Buccal Health, Integral Health for the childhood (SIPI), Promotion and Prevention

## ABSTRACT

Health professionals are confronted daily by several decision making processes. Such processes imply evaluation of needs, alternatives, and choosing options to optimize results. The decisions taken involve individuals, groups, communities or societies. During the past century the study of decisional theory has been consolidated, being explored mainly through its base rules such as mathematic and economic issues. This article summarizes the approaches, application to health sector, and formation tendencies of decisional theory, and it is based on the thesis work for master degree in University direction coursed by the authors.

**KEY WORDS:** Decisional Theory, Health professionals.





## ASOCIACIÓN COLOMBIANA DE FACULTADES DE ODONTOLOGÍA<sup>1</sup> - 45 AÑOS

**L**a Asociación Colombiana de Facultades de Odontología, ACFO, fue fundada en 1961 como resultado de la unión de las facultades de odontología de la Universidad de Antioquia, Pontificia Universidad Javeriana, Universidad Nacional de Colombia y Universidad de Cartagena. Desde finales de los años 50, dichas facultades se vieron abocadas a aunar esfuerzos para contribuir a la solución de las problemáticas existentes en ese entonces, tales como el empirismo y la lucha por el posicionamiento de la profesión frente a la medicina en el país. Su fundación se formalizó mediante el acta de fundación del 25 de Marzo de 1961.

Hoy en día, la ACFO cuenta con 16 facultades de odontología como miembros, siete de las cuales han obtenido Acreditación de alta calidad por parte del Ministerio de Educación. Las facultades miembro son las pertenecientes a las siguientes instituciones: Universidad Nacional de Colombia, Universidad de Antioquia, Instituto de Ciencias de la Salud CES, Universidad del Valle, Pontificia Universidad Javeriana, Universidad Autónoma de Manizales, Universidad El Bosque, Universidad Santo Tomás, Universidad de Cartagena, Universidad Metropolitana, Colegio Odontológico Colombiano, Fundación Universitaria San Martín, Universidad del Sinú en Montería y su seccional de Cartagena, y la Universidad Cooperativa de Colombia con sede en Pasto y Villavicencio. Su estructura administrativa tiene como órgano máximo de dirección a la Asamblea General de Asociados, seguida del Consejo Directivo, el Consejo Administrativo, la Dirección Ejecutiva y las Divisiones de Investigación, Educación y Servicios.

Como organización de naturaleza académico-científica, La ACFO ha liderado desde su creación varios procesos en concordancia con su misión de fortalecer los vínculos entre las diferentes facultades de odontología, y de éstas con entidades nacionales e internacionales, para promover y fortalecer la calidad en la formación del recurso humano, el desarrollo de la práctica odontológica y la formulación de políticas que contribuyan al mejoramiento de las condiciones de salud de la población.

Han sido muchas las acciones y proyectos que ha desarrollado la ACFO desde sus comienzos. En la década de los 60, momento en el cual se plantearon varias reformas para la formación de los profesionales de la salud, con el concurso de las facultades asociadas la ACFO trabajó en la introducción del modelo preventivo y social, de la salud pública y la epidemiología como consecuencia, entre otros, del movimiento de la medicina social que comenzó a plantearse a nivel latinoamericano. Se decidió formar odontólogos en salud pública, crear los departamentos de salud preventiva y social en las facultades y plantear la formación de personal auxiliar hacia un modelo de salud pública. Es ésta la década en que la odontología se consolida como profesión como producto de la promulgación de la ley 10 de 1962, ley que aún hoy nos rige y en la que la ACFO tuvo una participación preponderante.

El tema de la educación odontológica se convirtió entonces en el centro de acción de la Asociación, pues se consideró que con la promulgación de la ley 10 se había superado, en gran medida, el problema del empirismo y se habían logrado la independencia y el posicionamiento de la profesión.

En la década de los 70, la ACFO participó en la propuesta del primer documento de política de salud oral liderado por el Ministerio de Salud, en unión con la Federación Odontológica Colombiana, los servicios de salud y demás agremiaciones odontológicas existentes. En dicha política se planteó, entre otros, el fortalecimiento de la formación odontológica a nivel hospitalario, trayendo como consecuencia la creación de los departamentos de estomatología en los hospitales y el aumento de la cobertura en la atención odontológica, criterio bajo el cual se fundamentó la creación de nuevas facultades de odontología de carácter privado. Es un momento de transición hacia un modelo de planificación dentro del cual se crea el Sistema el crecimiento del número de facultades, la ACFO se fortaleció, llegando a tener 12 facultades de odontología como miembros, las cuales podrían ingresar, según la reforma estatutaria de 1982, al momento de tener egresados. Fue en esta década cuando se inició un trabajo conjunto entre las asociaciones de facultades de salud, ASCOFAME, ACOFAEN y ACFO, apoyadas por agencias internacionales, y en donde se desarrollaron el proyecto de autoevaluación, cuyos resultados llevaron a las facultades a plantear importantes reformas curriculares, el proyecto de atención primaria en salud y el proyecto de docencia servicio y salud familiar.

A partir del movimiento hacia la descentralización que se vivió en el país en los ochenta, la ACFO participó permanentemente en la discusión y reflexión que desarrolló el sector de la salud y que culminó con la formulación de la política planteada en la ley 10 de 1990. Adicionalmente, durante esta década, la Asociación se fortaleció como ente asesor ante el ICFES en procesos de autoevaluación y en lo referente a la convalidación de títulos del exterior ante la dirección de recursos humanos del Ministerio de Salud, trabajando conjuntamente en aspectos de la relación docente asistencial y los campos de práctica, entre otros.

Las acciones de la ACFO en la década de los 90 estuvieron marcadas en el campo de la salud por la promulgación de la ley 100 de 1993 y en educación por la ley 30 de 1992. Se participó en la revisión de costos, en lo pertinente al Plan Obligatorio de Salud en Odontología, en las normas técnicas, en la construcción de guías de manejo clínico en convenio con el ISS y en la formulación del Plan Nacional de Salud Bucal a través del Comité de apoyo del Ministerio de Salud. Se acentuó la presión para reglamentar la ley 30, lo que en consecuencia permitió una participación importante en la reglamentación de exámenes de estado, requisitos y condiciones mínimas para la creación y funcionamiento de programas de salud, trabajo que culminó con la promulgación del Decreto 917 de 2001.

En la presente década, la ACFO adquiere un importante posicionamiento en razón a la gran cantidad de reformas que vive el país en los sectores de la salud y la educación superior, convirtiéndose en organismo consultor permanente de los respectivos ministerios. Adicionalmente, ha fortalecido de manera importante sus relaciones interinstitucionales en trabajos conjuntos con la Alianza de Asociaciones de la cual fue miembro fundador, con ASCUN, el ICFES y el Observatorio de Recursos Humanos. Igualmente, ha participado en diferentes proyectos entre los que se destacan el proyecto de Ley de recursos humanos en salud, el proyecto de reforma de la ley 100, el POS en odontología, la problemática del empirismo en la profesión, los aspectos reglamentarios de la ley 30 en lo que tiene que ver con la evaluación de la calidad en la educación superior, la construcción de los exámenes de Estado para odontología donde participaron todas las facultades de odontología del país, la formulación del Plan Nacional de Salud Bucal 2004, la creación del Colegio Colombiano de Odontólogos, la Política Pública en Salud Oral planteada desde la Secretaría de salud de Bogotá, la elaboración de guías de manejo clínico en caries y enfermedad gingival para ser implementada en la red hospitalaria del Distrito Capital y la homologación de títulos del exterior.

Paralelamente, la ACFO ha dedicado parte importante de sus esfuerzos a apoyar el fortalecimiento de la calidad de la formación con sus facultades miembros en investigación, pedagogía, currículo, evaluación, cualificación docente y los servicios y la proyección social.

El fortalecimiento de la investigación se ha visto reflejado a través de 17 Encuentros Nacionales de Investigación -cuatro de ellos con participación internacional, los cuales se han realizado anualmente, desde 1989 en diversas facultades asociadas con el apoyo permanente e irrestricto de la empresa Colgate-, el desarrollo de investigaciones de gran impacto en temas como flúor y en programas preventivos en salud bucal en el contexto del sistema general de seguridad social en salud, así como en la consolidación de grupos y líneas fuertes de investigación al interior de las facultades asociadas. Este encuentro anual de investigación debe en gran medida su posicionamiento en la profesión al esfuerzo invaluable de los Drs. Iván Darío Jiménez y Ángela María franco, a quienes se les reconoce el importante trabajo que durante muchos años realizaron para convertir este evento en el gran espacio de encuentro de la ACFO.

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