

# SECOND INTERNATIONAL CONGRESS FOR ORAL SURGERY AND IMPLANTOLOGY

&

14th European Symposium of BDIZ EDI

WHERE ART AND TECHNOLOGY  
**MEET EXCELLENCE**

COVID- 19 online zoom congress

2-3 october 2020

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**COVID-19**

## RESPECTED COLLEAGUES AND FRIENDS,

It is our great honor and pleasure to invite you to the Second International Congress of Oral surgery and Implantology and the 14th Symposium of the European Association of dental implantology, which will be held from the 28th to 30th of May at Double Tree by Hilton in Skopje, organized by Macedonian dental society- Association of oral surgery specialists,(MDS-AOSS), Albanian dental society of Macedonia-Albanian implantology association in Macedonia (ADSM-AIAM) and European Association of dental implantology (BDIZ EDI).

We deeply believe that this, until now biggest gathering of oral surgeons and implantologists in Macedonia where top European names have announced their participation, will be of great importance for the whole region. We are sure that Edimplant 2020 will be a place for acquiring and sharing research presented by lecturers with enormous experience. Your attendance at the congress will intend to exchange knowledge and experience, discover new acknowledgements and practical skills which derive from the intensive progress of the world's implantology science. For this purpose, the program provides, besides plenary lectures, oral and poster presentations, and several workshops, designed according to the interest and suggestions of the interviewed specialist.

The very title of the congress "Where Art and Technology meet Excellence" points to the complex nature of dental implants and their biological, aesthetic and functional importance.

We sincerely hope that one of the announced themes of the Congress (Oral Surgery, Pathology and Radiology; Implantology and Regenerative Surgery; Implant supported prosthodontics; Perioral Aesthetics and General Topics) will attract your attention. We invite you, with your presence and active participation in Congress, to contribute to the enrichment of the program and to the successful implementation of the foreseen activities.

In addition to being scientific, there is also a rich social program and the opportunity to feel the warmth and hospitality of Skopje with your colleagues and friends. Skopje is beautiful in May. We expect you!

The Congress and Symposium program, as well as all other relevant information, will be available at: [www.edimplant2020.com](http://www.edimplant2020.com)

Gordana Apostolova

President of Macedonian  
dental society- Association  
of oral surgery specialists

Fisnik Kasapi

President of Albanian dental  
society of Macedonia-Albanian  
implantology association  
in Macedonia

EDI of Macedonia  
BDIZ EDI

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Fisnik Kasapi

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# SCIENTIFIC PROGRAM



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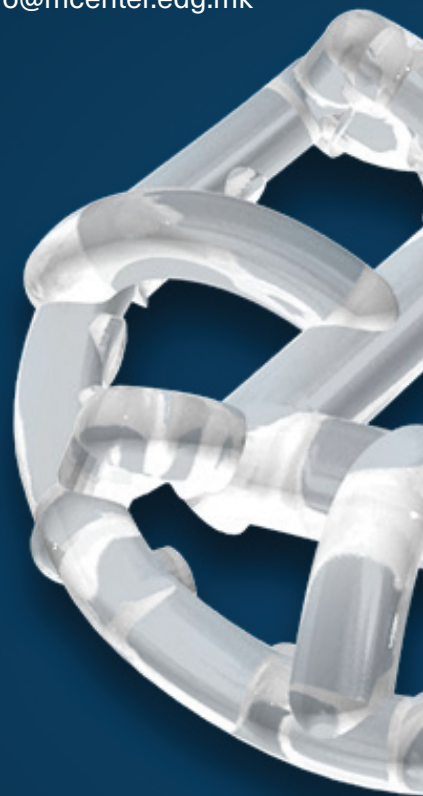


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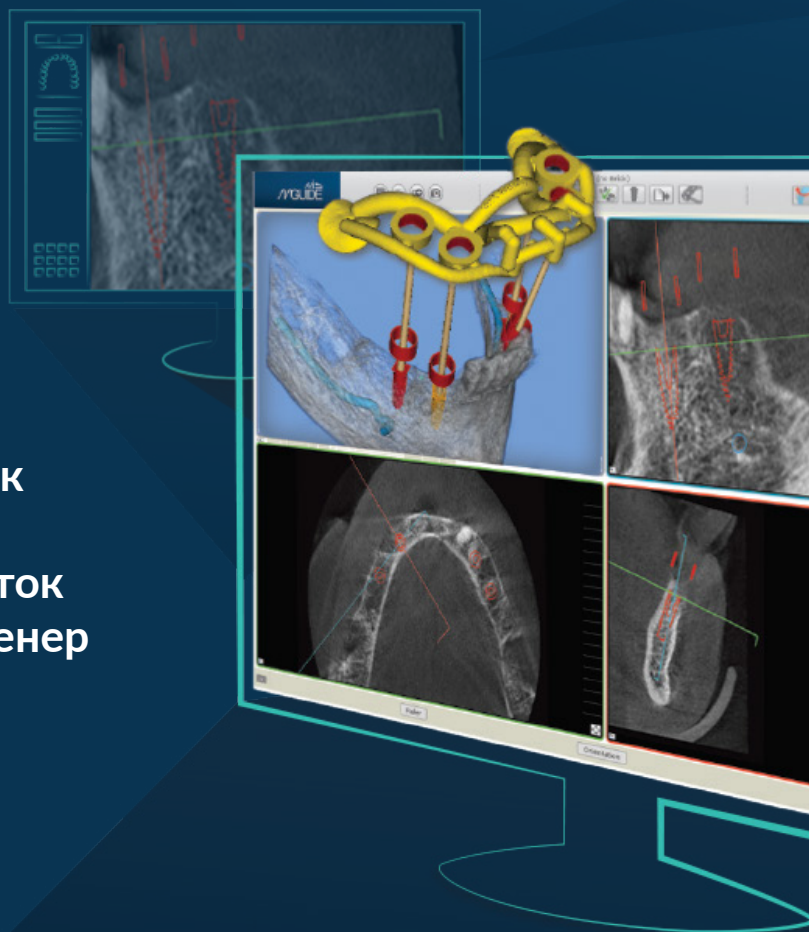
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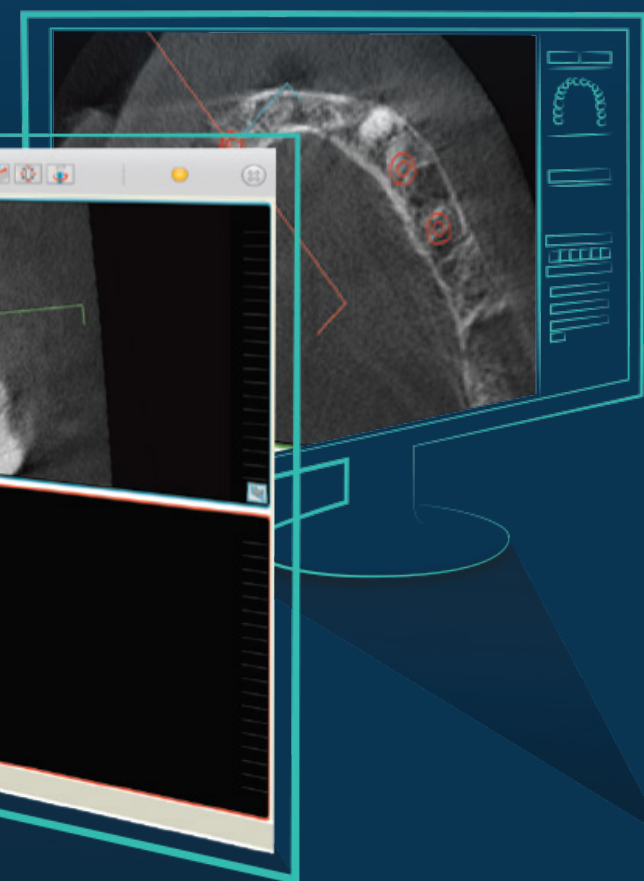
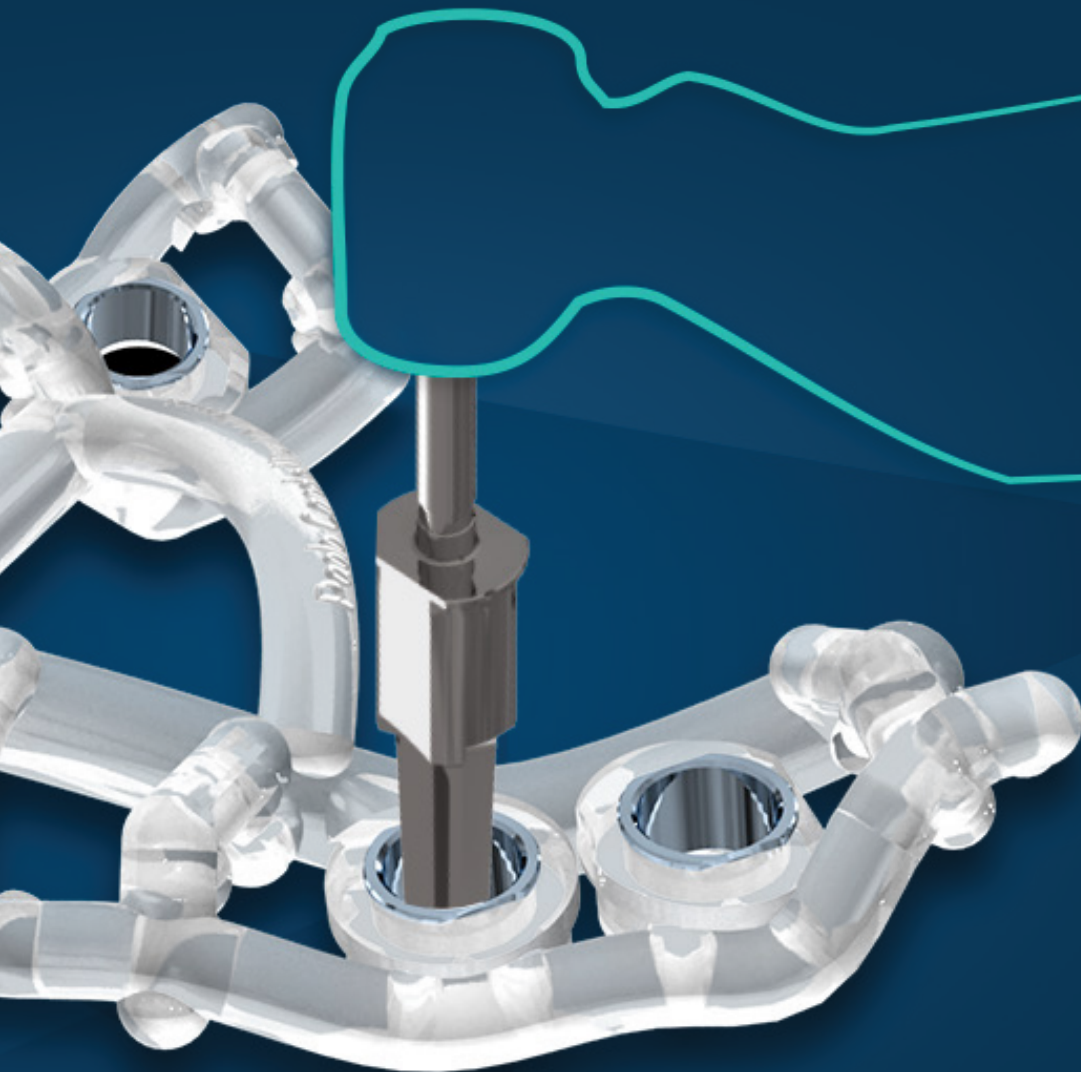
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# LECTURERS





**ASSOCIATE PROF.  
SNJEZANA POHL ,  
RIJEKA, CROATIA**

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Snjezana Pohl is both doctor of human and dental medicine. She is a specialist in oral surgery and EDA certificated specialist for periodontology and implantology.

Currently she is joint owner and head of the Department for Oral Surgery in a private clinic (Rident). Designated as an assistant professor, she additionally is giving lectures at the Department of Oral Medicine and Periodontology at the School of Dental Medicine of the University of Rijeka. In 2015 she became a DentalXP expert and a lecturer at worldwide dental meetings.

As an active lecturer in the fields of implantology and periodontology she underlines the importance of minimally invasive techniques especially in a comprehensive treatment methodologies based upon Preservation of tissues such as Partial extraction therapies, autogenous tissue utilization, Osseodensification and others.

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## **ABSTRACT**

### **THE “ROBIN HOOD” APPROACH TO HARD TISSUE ENGINEERING**

There are great sources of patient's own tissue, often in adjacent areas, that can be utilized for hard tissue augmentation. And patient's extracted teeth are not a waste but the best grafting material. Patient's own tissue preservation is the best way to prevent complications.

Alternative donor sites for the Khoury technique and particulate autogenous bone harvesting, dentin autograft and partial extraction therapy are presented in this lecture.



**PROF. DOTT. A  
NGELO CARDARELLI,  
ITALY**

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Graduated with Lode in Dentistry and Dental Prosthetics at the University of L'Aquila in 2007. Specializing in Oral Surgery at the "Sapienza" University of Rome in 2010. He is a Adjunct Professor and tutor at the San Raffaele University of Milan. He is a Scientific Advisor to the Dental Clinic at the Department of IRCCS San Raffaele in Milan (Dean Prof. E. Gherlone). He work in Milan and Isernia, where he practices Implantopotesis and Oral Surgery. Author of many publications, Speaker in National Congresses on

Implantology and Oral Surgery. Member of the San Raffaele Implant Cultural Association, SIMO (Società Italiana Maxillo Odontostomatologica) and member of IAO (Italian Academy of Osseointegration).

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## **ABSTRACT**

### **MINIMAL INVASIVE TECHNIQUE FOR THE REHABILITATION OF THE ATROPHIC JAWS WITH A REDUCED NUMBER OF IMPLANTS.**

Implant-prosthetic rehabilitations of immediate jaws represent a therapeutic possibility with a high success rate and satisfaction for the surgeon and the patient. However, the anatomy of the jaws, periodontal and iatrogenic damages represent limitations to the conventional rehabilitations of edentulous patients and with serious damage of the residual dental elements that would require preimplant bone regeneration treatments. These methods are to be considered for patients with a high biological and economic cost, with high morbidity and LINKED TO THE OPERATOR EXPERIENCE For these reasons, the current implant guidelines focus on clinical protocols that used the residual basal bone without the need for any kind of regeneration. These methods, well supported by scientific data, provide for an immediate restoration of the function by positioning implants with immediate loading. The "All on Four" protocol requires the placement of four implants, two anterior "straight" and two tilted posterior ones placed in the basal bone of the jaws. The reduced number of implant rehabilitations, whether they are inclined or not, are proved by numerous scientific studies showing that four implants are sufficient to support a full-arch prosthesis. Since the immediate loading of tilted and axial implants with placement of an immediate provisional prosthesis is proposed as a predictable, fast and cheap method to treat maxillary atrophy,



## **PROF CURD M.L. BOLLEN, NETHERLANDS**

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Dr. Bollen was born in 1969 in Belgium and graduated in 1992 as dentist (DDS) at the Catholic University Leuven (Belgium). In 1996 he received his PhD on the thesis: “Full-mouth disinfection and hard surface smoothing reduce the subgingival bacterial load” at the same university. One year later he finished his MSc in periodontology & implantology under supervision of prof. dr. D. van Steenberghe. In 2016 he became MClintDent in aesthetic and restorative dentistry (University of the Pacific, US).

Dr. Bollen published more than 35 scientific articles in peer reviewed international dental journals and was author/co-author of 8 books/chapters in books. He is editor in chief of the Journal of Dental Health, Oral Disorders & Therapy and editor of 10 other online journals.

Formerly, he was active as consultant and researcher at different universities: Leuven and Liège in Belgium, Nijmegen in The Netherlands, Bonn and Düsseldorf in Germany. At the latter university he was clinical assistant professor (2010-2012). Recently, he was associate professor at the university of Manchester (UK) (2017-2018).

Actually, he is key opinion leader for the companies Z-Systems, TRI and NobelBiocare. Curd Bollen leads a multi-disciplinary dental clinic in the Netherlands, where his professional activities are limited to periodontology, implantology and halitosis. His main research-topic is ceramic dental implants. Actually, he is doing a clinical study on NobelPearl, granted by the company NobelBiocare.

Since 2018 is his board member and member of the scientific committee of the European Society for Ceramic Implantology (ESCI).

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## **ABSTRACT**

### **ARE ZIRCONIA IMPLANTS A REAL ADDED VALUE TO IMPLANT DENTISTRY?**

Despite more than 50 years of titanium as the gold standard in implant dentistry, the quest for alternative implant materials has been growing. The actual high esthetic standards, the increasing request for metal-free/biologic reconstructions along with the rising incidence of titanium allergies, have led to the proposal of ceramic materials as potential surrogates.

Following numerous in vitro, in vivo and clinical studies, zirconium dioxide (zirconia) has obtained a prominent place as the substitute for titanium in implant dentistry. Yet, despite zirconia's outstanding biocompatibility and excellent tissue integration, its low affinity to bacteria/plaque and its favorable biomechanical properties, early failures were significantly higher for zirconia implants than for titanium implants just until recently. Technical failure as a result of fracture of the material was also a major concern, especially in the older generation of ceramic implants, made of aluminium oxide.

Zirconia implants have been mainly manufactured as one-piece implants because of the material's mechanical limitations. Nowadays, various two-piece implant systems are introduced with very promising results. Screw-retained abutments are desirable but present still some technical challenges, whereas the more common cemented abutments are not the preferred solution. More research, innovation and technical advances will consequently lead to further improvement in the quality and success of zirconia implants and the implementation of new designs, connections and prosthetic options.

Finally, more scientific and clinical studies are required to overcome all relevant technical and biological factors affecting implant success and patients' satisfaction.

Clinical cases show in a nutshell the indications and outcomes of the use of ceramic dental implants.



**ELAINE H.  
BERKOWITZ, DMD,  
PITTSBURGH, USA**

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Born: Pittsburgh, PA May 1, 1944

**EDUCATION**

- Ohio State University, College of Dentistry, General Practice Residency, 1986-1987
- University of Pittsburgh, School of Dental Medicine, DMD, 1981-1986
- University of Pittsburgh, Vocational Education, BS, 1969-1980
- Dental Assistant Certification Course, 1962

**CERTIFICATION**

- University of North Carolina, Teacher Trainer Workshop in Dental Assisting, 1966
- Certification, American Dental Assistants Association, 1963

**PROFESSIONAL ORGANIZATIONS**

- American Dental Association, 1986-present
- Association of Military Surgeons of the USA, Life Member since 1987
- Academy of General Dentistry, 1988-1992
- Academy of Dental Research, 1986-1987
- World Health Mission, 1988-present (Secretary, 1989)
- PADIT ( PA Dental Identification Team), 1991-1996
- Reserve Officers Association, Life Member since 1987 (President, 1994-1995; ROTC Chairperson, 1996-present)
- Military Order of World Wars, Life Member since 1992 (ROTC Chairperson, 1999)
- American Legion, Life Member since 2013

**ACADEMIC EXPERIENCE**

- Prishtina University (Kosova), Lecturer, 2007, 2010-2011
- Keynote Speaker, Japanese Gerontology Society, 2009
- Ohio State University, School of Dentistry, Visiting Lecturer, Department of Community Dentistry, 1990-2006
- Teacher, Dental Assisting (Expanded Duty Course), Health Careers, Medical, Pittsburgh Board of Education, 1971-1981
- Instructor, Secretarial Dental Assisting, Community College of Allegheny County, North Campus (part time), 1978-2004
- Instructor, Dental Assisting, Connelly Skill Learning Center (part time), 1975-1978
- Instructor, Dental Assisting, Manpower Program (part time), 1970-1971
- Wrote Dental Assisting Curriculum for the Pittsburgh Board of Education, 1975
- Wrote Dental Assisting Curriculum for a Private Dental Assisting School, 1969

**RECENT AWARDS**

- 2015 Doctor Honoras Causa..University of Prizren
- 2016.Caregiver Champion, University of Pittsburgh Medical Center

## **ABSTRACT**

### **“IMPLANT DENTISTRY FROM THE GENERAL DENTIST’S VIEWPOINT”**

The placement of dental implants has become increasingly routine in dental practice, which is largely justified by the increasing predictability of the results obtained, improved diagnostic procedures and a high success rate. One of the most important conditions leading to long-term success in implant-prosthetic therapy as well as long-term maintenance of implant integrity is the prophylactic approach, the way in which supra and subgingival periimplant hygiene is maintained. In this regard, there are a number of studies comparing the efficacy of hand curretes versus ultrasonic extensions in terms of the efficacy of calculus and biofilm removal, and in the same time their potential damage to the implant surface. Therefore, it is recommended to use softer materials such as rubber, interdental brushes, thread, ultrasound with plastic straps etc. Although using these devices the surface of the implant is almost completely safe from damage, yet the presence of uneven surfaces or exposure to the implant threads may to some extent compromise and limit the effect of local debridement. Oral microflora is considered as one of the key factors that determine the success of a dental implant. However, certain modalities of implant surfaces may limit the effect of debridement, so some additional modes of therapy and medications such as antibiotics (local or systemic), antiseptics, ultrasonic and laser treatments in non-surgical approaches should be included. In cases of isolated local periimplant alterations and the absence of other infections, local application of antibiotics such as tetracycline fiber insertion or minocyclic microspheres may be considered in addition to local debris and antiseptic agents. In cases where bone resorption is more advanced or persistent despite initially initiated therapy, surgical debridement of the soft, periimplant tissue affected by the chronic infection, decontamination of the implant, and finally use of the bone substitute is required.



## **PROF. TUSHEK IVAN, SERBIA**

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Professor at the Faculty of Medicine in Novi Sad, Clinic of Stomatology with 35 years of experience at the Clinic of Pediatric and Preventive Dentistry, where he has been working as a specialist for 20 years. He received his PhD in 2009 at the same faculty. He has published 9 scientific papers in relevant journals in the last 10 years.

As a participant in domestic and international gatherings he has presented 70 scientific papers. He is a Visiting Professor at the

Osijek Faculty and mentor of more than 30 graduate and specialist papers and doctorates. He is a peer reviewer in 5 domestic and foreign journals and author of two university textbooks. He is a member of the Dental Chamber of Serbia

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## **ABSTRACT**

### **MANDIBULE FRACTURE - THE CHALLENGE FOR PEDIATRIC DENTIST**

Frequency of the mandible fractures in preschool children is relatively low. These types of injuries require a special management for treatment to avoid possible chance of any disturbances in growth and development of the low jaw together with the teeth in eruption embed inside. In presented example, a six year old boy was the victim of the colt, who kicked him with its hoof directly in the chin, so the boy was suffered from dislocated mandible fracture in parasymphysis region. The treatment was performed under general anesthesia as manual reduction of the bone fragments, until re-establish of the normal occlusion occur with titanium mini plates osteosynthesis. After surgery the composite resin splint was placed for the immobilization of the luxated permanent teeth (31, 41). The patient was continually checked for the seven months. Now, he has no restriction in mouth opening, no chewing problems, or pathological low jaw movement and no luxated teeth. There is recommendation for titanium mini plates, screws and wire removal, after healing period. For treatment of the pediatric mandible fractures there is a special need of a joint work of maxillo facial surgeons, pediatric dentists and orthodontists with further patient observation until the end of the growth and development of the teeth and jaws.



**ASSOC.PROF.  
MUSTAFA RAMAZANOGLU,  
ISTANBUL, TURKEY**

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Mustafa Ramazanoglu graduated from Marmara University Faculty of Dentistry in 2001 and enrolled in postgraduate program at the Department of Oral and Maxillofacial Surgery, Istanbul University Faculty of Dentistry where he earned his Ph.D. degree in 2008. He was visiting scholar at Charite Campus Virchow Hospital, Clinic and Policlinic for Oral & Maxillofacial Surgery and Plastic Surgery, Clinical Navigation and Robotics, and Department of Oral & Maxillofacial Surgery , University of Erlangen in 2004 and

2008, respectively. He became associate professor of the Department of Oral & Maxillofacial Surgery, Istanbul University in 2013 . He received price for the best poster presentation at the annual meeting of Association of Oral and Maxillofacial Surgery Society in Antalya (2012), poster presentation travel award at the annual meeting European Association of Osseointegration in Copenhagen (2012) and price for the best poster at International Conference on Oral & Dental Health in Las Vegas (2013). He has authored or co-authored original articles, review papers and book chapters about implantology and dental stem cells. His main area of research is focused on the biological basis of osseointegration, craniofacial bone tissue engineering, biomaterials and stem cells. His clinical interests lie primarily in the area of immediate loading and function of implants.

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## **ABSTRACT**

### **THE ART OF TILTING IMPLANTS**

The fixed rehabilitation of edentulous jaws with implants is often challenging due to the discrepancies at the posterior sites. The axial placement strategy either with six or eight implants often needs additional bone building approaches, such as sinus lifting, guided bone regeneration, autogenous bone grafting. While these treatment modalities increase the risk of surgical complications and morbidities, they also have prolonged treatment periods which sometimes last more than a year. The available bone present at the anterior sites, mostly provides sufficient space for the placement of more than four implants. Besides, the anterior portion of jaws also possess a better bone quality also eligible for immediately loading of implants in order to establish a provisional fixed bridge following surgery. However, the use of this maximum available bone for supporting a full fixed bridge needs an implant placement strategy of an angulated fashion in order to bypass the anatomical structures, such as maxillary sinus and mental foramen. The placement of two vertical and two angulated implants at the anterior region for supporting fixed prosthesis is called the All-on-4 concept. The main purpose of this lecture will be to provide information and details about the surgical and prosthetic workflow of All-on-4 procedures.



## **DR. KLEANTHIS MANOLAKIS, PHD**

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Dr. Kleantis Manolakis was born in Thessaloniki, Greece. He graduated from the School of Dentistry, Albert-Ludwigs-University Freiburg, Germany in 1989. He also completed his thesis at the same university and was awarded the Ph.D. degree in 1991. He was trained in fixed prosthodontics and dental implantology at the Center of Dental Medicine, Department of Prosthodontics and Department of Oral Surgery, University of Zurich, Switzerland (1993-1995).

Since 1995 he maintains a private practice specializing in esthetics and dental implants in Thessaloniki, Greece.

Founding member and since 2012 Treasurer of the Hellenic Academy of Aesthetic Dentistry. Country Chairman Greece for the European Society of Cosmetic Dentistry. Course director and instructor for international training courses.

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## **ABSTRACT**

### **SURGICAL IMPLANT PLACEMENT IN VIRTUAL REALITY ENVIRONMENT – INTRODUCING A NEW TRAINING MODEL**

Virtual surgical implant placement is set to address the shortcomings of reduced real-time theatre experience of current dental surgeons in complex, highly demanding dental implant placement procedures. Virtual implant placement provides novel, low-cost psychomotor, virtual reality training. Recent novelties in VR systems result in affordable, high-end applications offering unique user experience. In the dental implant surgery domain the simulated basic dental implant placement in virtual reality improves patient outcomes and reduces errors and training time. Unlimited trials and collaboration with other dentists in VR will improve progress results.





**PROF. MARIA PEEVA-  
PETRESKA,  
SKOPJE, R.N. MACEDONIA**

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Prof. Marija Peeva-Petreska, graduated on the Faculty of Dentistry in Skopje in 1987 and has been working full time since 1990 at the Oral Surgery Clinic. She passed the specialist exam in 1996. She completed her master's thesis (2002) and her doctoral dissertation (2007) in the field of oral surgery at the Faculty of Dentistry, University "St. Cyril and Methodius" in Skopje. She accomplishes professional and scientific visits to EUROMED CLINIC - Furth, Germany in 2002, Mannheim, Germany in 2002, University Clin-

ical Center of Atlanta, USA "EMORY UNIVERSITY" in 2005 and Clinical Center in Ljubljana, Slovenia in 2006. As a member of domestic and international professional organizations, Prof. Peeva participates in many European and world congresses, symposia and courses. He is also the author of two monographs published in 2008. He is the author or co-author of plenty specialized scientific papers published or presented in the country and abroad.

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## **ABSTRACT**

### **IMMEDIATE GRAFTING PROCEDURE OF AUTOGENOUS DENTIN**

**Background:** Regeneration of jaw bone defects is a major problem that continues to inspire the design of new bone materials. Autogenous bone, has long been considered the ideal grafting material in bone reconstructive surgery, although due to its limitations, various bone substitutes has been introduced. The newest autologous material, that can serve as a native bone grafting material is dentin, containing the intact growth factors in the collagenous extracellular matrix.

**Aims:** We present a novel procedure in a clinical setting with freshly extracted teeth that are processed into a bacteria-free particulate dentin, and then grafted immediately into extraction sites or bone deficiencies.

**Methods:** The clean and dry tooth, mostly dentin, is immediately grinded using a 'Smart Dentin Grinder', which grinds and sorts extracted teeth into dentin particulate of a specific size. A chemical cleanser is then applied to process the dentin particulate into a bacteria-free graft over the course of about 15-20 minutes.

**Conclusion:** Autogenous mineralized dentin particulate that is grafted immediately after extractions could be used as a bone substitute for enhancing bone regeneration, for socket preservation, bone augmentation in sinuses or filling bone defects.

**Key words:** autogenous dentin graft, bone defects, bone regeneration



## **ASSOC. PROF. DR. KENAN FERATI**

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Qualifications: MDSC, PhD, Spec. Maxillofacial surgery, Assoc. Prof. Full time Professor of Faculty of Medical Sciences, Visiting Professor of Medical University of Tirana University(ies) Faculty of dentistry at the Stomatology University of Sarajevo and University of dentistry " St. Cyril and Methodius " - Skopje ;  
Doctoral studies University of Belgrade ;  
Specialization of maxillofacial surgery at the Central Clinical

University of Skopje ;

Work Experience: Founder of "Apolon" Dental Polyclinic in Tetovo ;

2010 - 2014 Assistant of maxillofacial surgery and Implantology at the State University of Tetovo ; From 2014 Assoc.Prof and lecturer in Maxillofacial surgery and Implantology at the State University of Tetovo ; 2014 - 2016 Vice Dean for Education in Faculty of Medical Science and Head of study program Stomatology.

Clinical activity is dedicated to: Facial Regenerative surgery, Traumatology, Implant surgery, Esthetic surgery, Reconstructive surgery, Ect.

Lecture topics Immediate implant treatments, Role of autologous prepartate in jaws reconstruction, Stem cells, A-PRF, I-PRF, PRP, CGF, Strategies for lateral and vertical 3D ridge augmentation. Sinus Lift and Sinus augmentation crestal and Lateral approach

Associations: President of Albanian Stomatological society of Republic of North Macedonia

Vice- President of Dental Chamber of Republic of North Macedonia ;

Member of EAOCMFS ; I.T.I .Team ( International Team of Implantology ) ;

Educator in Straumann Team ; Member of Albanian Dental Society ;

Member of Maxillofacial surgeons of RNM ; Member of Implantologists of RNM ;

Consultant and surgeon at "Diamond Clinic" - R. of Albania ;

Member of commission at the Dentistry Chamber of Macedonia ;

Member of executive board at Medical Simulation Center of RNM

Other achievements and interests:

Member of board of research team of World Academy of Growth Factor and stem cells

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## **ABSTRACT**

### **COMPLICATIONS OF DENTAL IMPLANTS IN ESTHETIC ZONE**

The success of a dental implant is not only evaluated by osseointegration as it was in the early days of implantology, today the requirements are expanding and besides osteointegration, aesthetic outcomes also play an important role. Requirements especially aesthetic ones can often be difficult to achieve, and implant failures in the aesthetic area can be multifactorial. Once implant failures occur in the aesthetic area, many cannot be fully corrected to meet the requirements of patients and the medical team. These complications should be handled by a dental disciplinary team. In our case series, surgical considerations, including cases of asymmetry / due to implant placement or bone loss resulting from inadequate techniques or treatment failures, such as papillary asymmetric deficits with biological adhesions, are given. We draw on our experience in treating aesthetic failure of dental implants.



## **GURIEN DEMIRAQI , ALBANIA**

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Graduated in dentistry in the Faculty of Dentistry, Tirana University in 2003. From 2003-2006 specialized in Oral surgery and Implantology with DDS, BwKh Berlin (University hospital of Charite) and OMF Surgery, BwKh Amberg (University hospital of Friedrich-Alexander- Universität Erlangen-Nürnberg) Germany, BwzKh Koblenz (University hospital of Johannes Gutenberg University-Mainz) Germany. From 2007, pedagogue and lecturer in oral surgery; OMF surgery; oral anesthetics and implantology in

the Dentistry Department, Faculty of Medical Sciences of the Albanian University. From 2009-2015 chef of OMF surgery cathedra in the Dentistry Department, Faculty of Medical Sciences of the Albanian University.

From 2010 Master and later PHD in oral implantology in the Faculty of Dentistry, Tirana University. Speaker in and outside Albania in important events. Author and coauthor of several articles in Albanian and international magazines concerning oral and maxillofacial surgery, orthodontics, endodontics and implantology. Organizer of courses in grafting, implantology at different levels, accelerated orthodontics and endodontics. Maintains the private practice at the clinic “DemiraqiDental” in Tirana Albania.

Inventor of the “Sticky Tooth” grafting material, Co-inventor of the Baruti-Demiraqi approach, a PAOO enhancement technique with hard and soft tissue grafting protocol. Member of European Association for Osteointegration (EAO), World Dental Federation (FDI), South Europe, North Africa Middle East Society of Implantology and Modern Dentistry (SENAME), Balkan Stomatological Society (BASS), Member and Expert of the International Extraction Academy (IEA), Awarded Top 100 Doctor in Dentistry in 2020 by the Global Summits Institute (GSI), Opinion Leader of several dentistry firms etc. Major areas of interest include oral and maxillofacial surgery, implantology, accelerated orthodontics, guided regeneration, endodontic surgery, growth factors, emergency profiles in implantology and so on.

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## **ABSTRACT**

### **LATEST CLINICAL CONSIDERATIONS FOR SUCCESSFUL IMPLANT PLACEMENT AND LONGEVITY**

Demiraki G., Nocka E., Ervin S., Baruti E.

However, in most cases, the tooth cavity changes significantly after removing a tooth. Often, different graft materials are required to be placed in the post-extractive alveolus before a dental implant or prosthesis is placed, to maintain the volume of soft tissue and thus maintain aesthetics and allow normal restoration.

The ideal material for hard tissue grafting is osteoconductive, osteoinductive and osteogenic. That is why autologous bone graft is considered to be the “golden standard” reference graft. Autologous bone need donor sites to obtain, which usually leads to the need for additional intervention, not always preferred to the patient. However, there is another autologous biomaterial, which has the same characteristics and consistency as the corti-

cal bones. This material is an extracted tooth. Some systems currently allow an extracted tooth to be transformed into decontaminated and/or decalcified tooth particles but also blocks. Unica allows bone collection in the implanted alveolus we are creating or in the distance. Recent generations of biomaterials allow for a good supply of the required amount, which cannot be autologously collected. Venous Blood collection Systems such as BCGF allows the formation of fibrin membranes for their coverage and also the liquid fibrin that compacts bone particles in “Sticky Bone” and “Sticky Tooth”. Latest CBCT, CAD-CAM technologies allow a very realistic praesurgical programing. The latest disc and Piezo technologies allow precise spacing and expansion of alveolar ridge or autologous bone grafts. Bone Scrapers allows the collection of cortical bone easily. Also important is the correct placement of implants and the creation of an emergency profile on implants that mimics natural teeth. These are best accomplished with the Cervico VPI system. Together, they allow for edentulous problems to be resolved in a single surgical session and often provisional prosthesis to be applied in the same session.

We used the autologous dentin grinding system, Smart Dentine Grinder, BCGF, Safe Scraper, Unica, Piezo CAD-CAM, Cervico VPI, CBCT and so on, in various procedures involving the creation of an optimal implant site for implantation, enhancement and improvement of implant situs, distance grafts in conventional implantation implants.

However, the obtained grafts exhibit very good stability and ease of use. Also the cost is comparable to the synthetic and heterologous grafting materials, having good cost-effectiveness

Keywords: smart dentine grinder, BCFG, Safe Scraper, Cervico



## ROBERT ORETTI, UK

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Robert qualified at Kings College, London in 1987. After working in an orthodontic practice in Colchester for four years he moved to Newbury, Berkshire. Rob then spent the next 14 years working in a busy private practice where he built a reputation for treating complex cases involving cosmetic, implant and orthodontic treatments. At this time, Rob also became involved in teaching and mentoring and has taught many dentists on all aspects of cosmetic and dental implant therapies. In 2006, Rob moved to

Pentangle Dental Transformations – a purpose built centre for dentists to send their patients for implant and complex treatments. Rob now spends his time between treating these referred patients and teaching. Rob is currently a post graduate tutor for the Thames valley deanery, a mentor and faculty educator for the ADI (Association of Dental Implantology), a mentor and international speaker for the ITI (International team of Implantologists), a Royal College of Surgeons examiner for the implant diploma (RCS Edin) and the Membership in Advanced General Dental Surgery (MAGDS RCS Edin) and is the current president of BAAD (British Academy of Aesthetic Dentistry). He presents regularly at scientific meetings and has published several articles on implant therapy.

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## ABSTRACT

### RIDGE AND SOCKET PRESERVATION

The importance of preserving the horizontal and vertical ridge dimensions following tooth extraction have become critical factors for the aesthetic and functional rehabilitation of the implant patient.

Ridge and socket preservation are well-documented procedures but mainly relate to fully intact sockets.

This presentation will provide an overview of the procedure, the biomaterials that are used, and the clinical outcomes expected according to the literature.

Additionally, the management of the partially and severely damaged socket with ridge preservation techniques will be discussed.

#### Aims and Objectives for this series

- To discuss the biologic events following tooth extraction
- To review the current evidence on alveolar ridge preservation through systematic reviews
- To review/compare the available treatment modalities
- To discuss variations of the technique and evaluate treatment possibilities.

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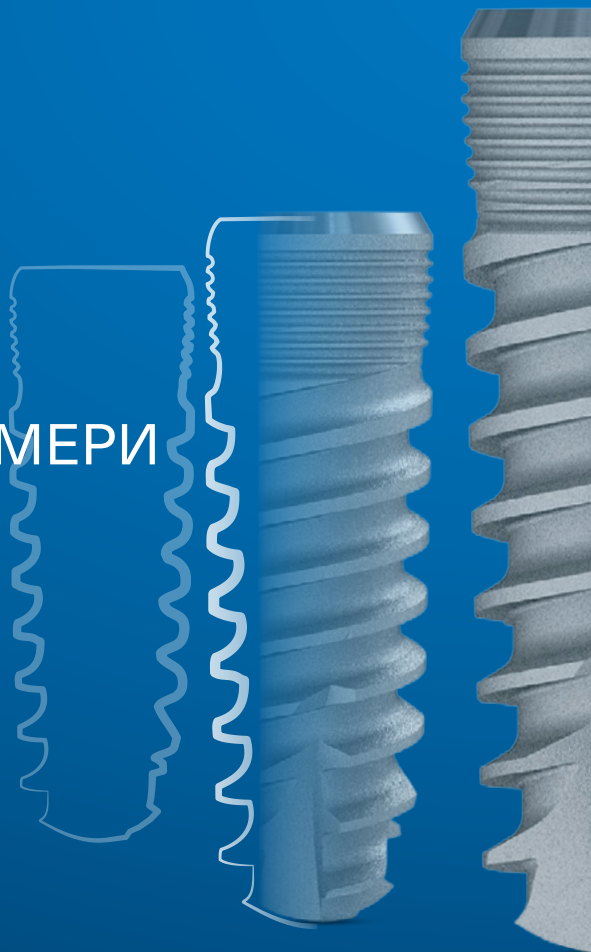
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# НА ИМПЛАНТОЛОГИЈА

СПЕЦИЈАЛНА ПОНУДА





**ORAL**

**PRESENTATIONS**



## **Combined strategies to improve the results of regenerative periodontal surgery**

Atanasovska-Stojanovska A., Todorovska S., Spirovskaja N.

Periodontal reconstructive therapy has evolved over the years from the primary debridement phase of the tooth root and soft tissue to the stage where surgical techniques, biological concepts as well as biomaterials participate in enhancing regenerative outcomes. Periodontal tissue engineering is a discipline that is intensively developed in terms of materials that promote bone, periodontal and cement regeneration.

The purpose of this presentation is to illustrate the use of different materials used in the regeneration of infrabony periodontal defects through several clinical cases.

In our clinical cases, in addition to the use of xenograft bone material, we also used a resorbable membrane for GTR, as well as Emdogain and Platelet rich plasma. The surgical technique used was Modified Wideman's flap, full thickness, and in some cases a coronary advanced flap. The results were achieving clinically reduced loss of attachment, decreased probing depth, and no clinical signs of gingival inflammation after treatment. Most often the main mechanism by which graft materials support periodontal and bone regeneration when used in combination with membranes is the coagulation stabilization space they provide, not their osteoinductive potential.

There is much controversy in the scientific literature in this area about favoring the combined approach in optimizing the results of regenerative periodontal surgery.

Keywords: regenerative Periodontal Surgery, Guided Tissue Regeneration, Emdogain, PRP

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## **PRF- a novel approach in the treatment of peri-implantitis**

Veleska- Stevkovska D., Dimitrovski O., Evrosimovska B., Apostolova G.

Peri-implantitis is a pathological condition occurring in tissues around dental implants, characterized by inflammation in the peri-implant connective tissue and progressive loss of supporting bone. The onset of peri-implantitis may occur early during follow-up and the disease progresses in a non-linear and accelerating pattern. Peri-implantitis sites exhibit clinical signs of inflammation and increased probing depths compared to baseline measurements.

The aim of the study is to present a novel approach of periimplant treatment with second generation of platelet rich blood derivatives, PRF.

A clinical case with „step by step procedure” of surgical entry of periimplantitis site with class 3 defect according to Spiekermann и Jovanovic is described, combined with previous conservative periimplant treatment with specific antibiotic regime included. The golden surgical standards are regenerative methods of periimplant treatment, but this time combined with analog blood derivate „sticky bone” (S-PRF+ graft granules) and biological membranes (A-PRF, S-PRF). Surgical entry at peri-implantitis sites often reveals a circumferential pattern of bone loss. There is an increased risk of developing peri-implantitis in patients who have a history of chronic periodontitis, poor plaque control skills, and no regular maintenance care after implant therapy. Data identifying “smoking” and “diabetes” as potential risk factors/indicators for peri-implantitis are inconclusive. There is not an international consensus about definite protocol pattern of treating periimplant

disease. Most clinical studies underline the importance of management of peri-implant infections (control of infection, implant surface detoxification and adequate regeneration of peri-implant tissues, re-osseointegration).

The novel approach of introducing PRF and its benefits in periimplant surgical treatment has preliminary fascinating results in periimplant hard and soft tissue regeneration and long term stability.

Keywords: implantology, peri-implantitis, surgical regenerative procedures, PRF, evidence-based dentistry

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### **Evaluation of implant stability at L-PRF combined with deproteinized bovine bone mineral -DBBM for early implant placement after maxillary sinus augmentation**

Baftijari D., Benedetti A., Susak Z., Velkoska E., Veljanovski D.

In this study we evaluate the primary and secondary implant stability at grafted sites in DBBM + L-PRF group of patients and DBBM control group.

The aim of this study was to evaluate the implant stability in DBBM + L-PRF group of patients and DBBM group after maxillary sinus augmentation.

Nine patients requiring two-stage bilateral maxillary sinus augmentation were enrolled to the study. The patients were randomly grafted with DBBM + L-PRF (test) or DBBM alone (control) group of patients. The same implants ITI BLT implants were placed in the augmented sites after 4 months in the test group and 8 months in the control group. Resonance frequency analysis was performed immediately after implant placement and at implant loading in both groups. Three dimensional imaging was obtained preoperatively at every patient. Both procedures were successful and effective for maxillary sinus augmentation. Implant stability quotient (ISQ) immediately after implant placement was significantly higher in the control group ( $72.24 \pm 5.69$ ) compared to the test group ( $62.7 \pm 9.35$ ;  $P = .0003$ ). The ISQ values at loading did not differ between the groups ( $P = .856$ ). Implant survival rate was 100% for both groups.

Combination of L-PRF to the DBBM into the maxillary sinus did not show statistical significance for ISQ primary stability. The ISQ secondary stability was higher in the test group than in the DBM alone control group.

Keywords: implant stability, L-PRF, deproteinized bovine bone mineral -DBBM, maxillary sinus augmentation

## **Vertical and horizontal augmentation using guided bone regeneration technique to treat severely resorbed posterior mandible with e-PTFE membrane, particulated autogenous bone and xeno graft particles**

Balaji S.

Treatment of patients with severely resorbed posterior edentulous mandible using Osseo integrated dental implants, remains one of the most challenging goals in implant dentistry. GBR is a well-documented technique for bone augmentation. Non resorbable membrane such as conventional titanium mesh, CAD-CAM produced titanium mesh, titanium reinforced membranes are ideal for treating vertical defects. To show the technique GBR in treating a severely resorbed edentulous posterior mandible and determine the outcome of using titanium reinforced expanded polytetrafluoroethylene (e-PTFE) membrane, fixation devises, mixture of autogenous particulated bone and xenograft materials.

A 60:40 ratio of autogenous particulated bone and xenograft particles was used and secured with e-PTFE membrane. Master pins were used to secure the membrane. Double layer tension free soft tissue closure achieved using modified lingual flap technique and cytoplast sutures. Bone height was measured using CBCT before and after the surgery. Connective tissue graft was performed to increase the quality and quantity of soft tissue around implants. Healing process was monitored, and complications were recorded. Six vertical augmentation in posterior mandible has been carried out in six different patients. All patients were shown excellent results with new bone formation. No complications were recorded. Healing was uneventful.

The treatment of severely resorbed alveolar ridges with guided bone regeneration using a mixture of autogenous bone and Xenograft materials and e- PTFE membrane can be considered successful when surgical protocol is meticulously followed.

Keywords: guided bone regeneration, e-PTFE membrane, particulated autogenous bone, xeno graft particles

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## **The influence of bone material use on vertical bone level alterations in immediate mandibular molar implants**

Veljanovski D., Tasevski T., Gogushovska-Trajanovska A., Baftijari D., Spirov V.

The immediate implant placement is a predictable therapeutic modality with a high success rate. However, the bone crest in immediate implants is prone to resorption due to the post-extraction biologic phenomena. The use of bone substitute materials minimizes the horizontal bone volume changes. The vertical bone level changes depend on many factors, but are bone graft materials use one of them?

To radiographically determine the vertical alterations of the bone crest level in immediate mandibular molar implants placed with and without use of deproteinized bovine bone material.

A total of 14 patients were randomly allocated to immediate implant placement

with (control group) and without (test group) bone graft material. All implants were placed in a one stage manner. The distance between the implant platform and the most apical level of the bone crest was measured at mesial and distal points, at the time of prosthetic restoration and one year post functional loading. A digital software for panoramic imaging was used. Six months postoperatively all implants were successfully integrated and restored with single screw retained crowns. The mean vertical bone level reduction at the time of prosthetic restoration and one year later was greater in the test (without bone graft use) than in the control group ( $p < 0.05$ ) The immediate implantation is a safe and predictable alternative to the early and delayed implantation. The bone graft use compensates for the vertical bone level reduction. However, further clinical studies are required to draw certain conclusions.

Keywords: immediate implantation, implants, bone resorption, bone substitute

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## Dental implants - Technology complements competence

Recani B.

Dental implants take on the function of artificial tooth roots. They attach to the surrounding bone within 3 to 6 months to form a stable, extremely elastic support unit called osseointegration.

Supraconstruction planning and surgical techniques are the key conditions for successful implantology. They can be used as units, for example, only for a crown or more when it comes to carrying a prosthesis or bridge. We distinguish some forms of dental implants but the most commonly used is the cylindrical implant and which consists of the body of the implant and the abutment. Dental implants have usually been made of titanium since the 1980s, but also of ceramic materials.

The main purpose and conditions for successful implantology are: general patient status and suprastructural planning, taking into account the financial opportunity and anatomical and physiological opportunities of the patient's jaws.

It is important to choose the right implant, especially when it comes to perfecting and accelerating the process of osseointegration. Also challenges when bone is not sufficient and does not guarantee impact of the implant. We have to consider the application of bone reconstruction so-called augmentation. Augmentation methods can be performed with bones transplants or with artificial bone replacement material. Also, the use of PRF plasma recently shows good results in bone tissue reconstruction.

The bottom line is how to choose dental implant reinforcement with supraconstructions.

Keywords: implantology, osseointegration, successful treatment, PRF plasma

## **New Implant Exposure Techniques**

Spirov V., Veljanovski D., Dimitrovski O., Terzieva A., Menceva Z.

One of the major biological factors that has an impact on the maintenance of the marginal bone around the implants is the thickness of the attached keratinized tissue around them. Scientific knowledge indicates that patients with thin periimplant mucosa have resorption of the marginal bone, and is significantly greater compared to patients with thick marginal gingiva. The optimum thickness of the periimplant tissue is 4mm, the maximum thickness is 5mm in vertical dimension. In those cases where we do not have the required thickness of the marginal gingiva, different techniques of soft grafting are used, both during implant placement or in the second phase, when the implants are exposed. With this article, the latest surgical techniques for opening the implant will be presented, where at the same time enlargement of the peri-implant soft tissue is obtained, which is of great importance in the long-term survival of the implant.

**Keywords:** thickness on keratinized tissue, implant opening.

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## **Use of autologous dentin graft in augmentation of bone defects in jaw bones**

Xhaferi B., Peeva-Petreska M., Janev E., Atanasovska G., Xheladini A.

Autologous dentin graft is a material with great potential for bone defect regeneration in jaw bones due to similar chemical and biological composition of dentin with bone tissue.

The purpose of this research is to present a new procedure for preparing and obtaining the autologous demineralized dentin matrix which will serve to fill a bone defect in the maxillary region.

A 55 year-old patient with dg. cysta residualis 22, clinically with a clear Dupuytren phenomenon and radiologically defined diameter of 1.8 cm was scheduled for operative treatment.. The cyst was completely enucleated and confirmed pathohistologically. The cystic space has been augmented with the dentin graft combined with A-PRF to obtain the so-called „sticky dentin”. A Smart dentin grinder apparatus was used to obtain a demineralized dentin matrix with a grain size of 300-1200 microns per graft material and a quantity of 1.3g.

After 12 weeks, postoperative, radiologically has been shown complete bone regeneration of the cystic area while the postoperative period of graft acceptance is without any significant inflammatory response.

Autologous dentine graft is a very effective regenerative material in filling bone defects of the jaw bones and as such, together with other autologous graft materials can be considered as a gold standard in augmentation.

**Keywords:** autologous dentin graft, new procedure, smart dentin grinder, sticky dentin

## **Peri-implant treatment**

Omerov E., Peshevska S.

The pathological inflammatory changes that occur in the tissues around the implant that are already osteointegrated are a serious therapeutic challenge. To show an approach in the treatment of peri-implant treatment that will allow the implant to survive in the bone.

A 66-year-old patient with 2 implants in the mandibular region at positions 33 and 43 with ball prosthesis present for 2 years, diagnostic analyzes were performed to resolve bleeding and change color and appearance of soft tissues. The patient is systemically healthy but smoker (1 pack per day) with insufficient oral hygiene habits. The treatment plan for peri-implantitis includes pre-surgical preparation and surgical procedure, and the patient is instructed on oral hygiene procedures and control visits.

After 1 year of treatment there are no recurrences in the clinical picture, and the X-ray findings show a prominent regenerated bone around the dental implant. Adoption and adherence to the technique of oral hygiene, clinically recorded, speaks to the motivation of the patient to be a long-term basis for maintaining results. A therapeutic approach that includes thorough diagnostic analysis, a surgical protocol aimed at complete elimination of the inflamed tissues, implant surface decontamination, and proper guide bone regeneration (50% autologous bone and 50% artificial spongy bone and collagen membrane), motivation and patient education for thorough oral hygiene is justified because of the stable effect on the patient.

Keywords: peri- implantitis, surgery, oral hygiene, motivation and education.

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## **Complication in dental implants**

Redjep E.

Rehabilitation of lost teeth, mastication and aesthetics with dental implants is one of the most contemporary and used methods in modern dentistry. With the growing number of companies offering implants and also the growing number of dentists and surgeons using them, there is a grow in complications. Complications may occur during planning, surgery or prosthetic loading.

In this presentation, we will try to sum up some of the reasons of failing implants as well as show a number of some complications, possible causes and eventual treatment.

Keywords: rehabilitation, mastication and aesthetics, dental implants, complications

## **Safety methods for cementation of dental crowns over implants**

Trajkovska-Zareska I., Stefanovski V.

Excess of residual cement has been correlated with periimplantitis. Therefore, there is a need to prevent its leakage in the periimplant tissues and to secure its complete elimination during the cementation procedure.

We present several techniques of crown and abutment preparations, in order to get equally spread cement in the internal surface of the dental crown, which allows one to control the direction and elimination of flow excess.

We produced 12 CAD/CAM dental crowns over 12 abutments, with 50 $\mu$  space for cement, divided into four groups, to test four different preparation methods: (1) drilling an evacuation channel on the dental crown, (2) drilling a lingual evacuation hole on the abutment, (3) yielding a silicon replica of the titanium abutment, and (4) using an elastic membrane under the abutment. Later, we separated the dental crown from the abutment, and we measured the amount of cement remaining inside and outside the crown. The in vitro measurements proved that the most equal and thinnest distribution of cement inside the dental crown was achieved with the third method. On the contrary, the second method extruded very little cement excess. The fourth method showed the highest collection of cement excess, which made it safest procedure in patients' mouth.

The modifications of techniques for conventional cementation over implant abutments are helpful to control successful elimination of residual cement and minimize the risk of periimplantitis.

Keywords: cementation methods, implants, abutments, crowns

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## **Multi- unit abutments recommended in prosthetic and implantology treatment**

Janev E., Josifov D., Redzep E.

Possibility for choosing multi-unit abutments in oral implantology create prosthetic flexibility on implant supported restorations. Multi unit abutments offer a level of predictable esthetics, with consistent fit and function, that has greatly improved the effectiveness of implant supported constructions.

The aim of this study is to show proven and documented clinical efficacy of multi unit abutments, cost-effective solutions and portfolio of prosthetic restorations as one of the most comprehensive available. Implant–abutment connection offers unique features and benefits for various clinical situations.

Different indications, different surgical approaches, implant platform versatility, exceptionally secure fit, a versatile portfolio for reliable function and excellent soft tissue results. Multi unit abutments invent their multiple choice of prosthetic options, compatibility, quality and strength, better esthetics innovaton. At the end we can recommend multi unit abutments as a final abutments for all indications and treatment options, complementary prosthetic connections in implant dentistry.

Keywords: multi-unit abutments, dental implants, implant–abutment connection, restorations.

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### **Gow-Gates alternative technique or technique for everyday use**

Gurceski J., Lameski M., Trajculeski S., Veleska-Stevkovska D.

Standard indirect technique for block anesthesia of the mandibular nerve branches (“mandibular anesthesia”) is often unsuccessful and followed by risk of complications and injury of the surrounding anatomical structures. There are different reasons for that, but most often it happens because of anatomical variations. Gow-Gates technique overcomes these reasons, and according to literature it is described as superior technique in some aspects.

The aim of the study was to compare the standard indirect technique for block anesthesia of the mandibular nerve branches and Gow-Gates technique.

We compared two groups of patients (20 patients in each) where posterior mandibular surgeries were performed. Healthy individuals with age range from 18-70 years were chosen. We used amide anesthetic solution (2% mepivacaine hydrochloride, 1:100000 adrenalin), metal dental syringe with a possibility for aspiration and needle (32mm, 27GA). In the first group we used standard technique for anesthesia, and in second group we used Gow-Gates technique. Aspiration, success and time of onset were noted. The data were statistically processed. According to the results, there is difference in the success between both anesthetic techniques, but the difference is not statistically significant. A significant difference in the rate of positive aspiration was noted. Standard technique showed faster time of onset, compared to the Gow Gates technique.

If we overcome the technical performance of the Gow-Gates technique, it is more successful than the standard technique with minimal risk for complications.

Key words: mandibular anesthesia, Gow-Gates, block anesthesia



## **Matrix metalloproteinases as regulators of inflammatory processes in oral cavity**

Evrosimovska B., Ristovska S.

Matrix metalloproteinases (MMPs) are proteolytic enzymes capable of degrading almost all components of the extracellular matrix (ECM) and the basement membrane.

MMPs are involved in many physiological processes, such as ovulation, embryo implantation, tissue and organ development, nerve formation, angiogenesis, wound healing and bone remodeling.

Normal embryonic development and tissue remodeling require a controlled balance between ECM synthesis and degradation, as well as the balance between MMP and their natural TIMP inhibitors. MMPs play an important role in regulating cellular communication, molecular breakdown, and immune function by processing bioactive molecules including cell surface receptors, cytokines, hormones, adhesion molecules and growth factors. Overexpression of MMP occurs in many tissue-destructive pathological conditions.

MMPs are involved in the degradation of collagen from the organic matrix of the periapical connective tissue and pulp tissue during chronic inflammation. Measured MMP levels in the periapical exudate can be used as a biochemical indicator (a molecular marker for monitoring inflammatory activity and success in endodontic treatment of the root canal).

Keywords: matrix metalloproteinases, collagen, inflammation, molecular marker

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## **Differential diagnostic and therapeutic aspects of jaw cysts**

Bizevski D., Markoski N., Bajramov E., Gjorgieva Kangova E., КАНГОВ К.

Jaw cysts are pathological lesion that develop in the bone tissue of the upper and lower jaws. Each jaw cyst has its own capsule and contents. There are several classifications of jaw cysts based on different criteria in the literature. Their appearance, clinical appearance, and X-ray findings usually do not point to the right guidelines for establishing the correct diagnosis. However, standardized clinical protocols for diagnosis and therapy in some cases do not coincide with the final pathohistological finding and long-term prognosis.

The aim of this study is to show odontogenic and non-odontogenic cysts by displaying cases where deviations from standard algorithms for correct diagnosis occur.

Patients with odontogenic and non-odontogenic cysts whose clinical picture does not always coincide with the X-ray and pathohistological findings. All patients were diagnosed with chronic periapical lesions of odontogenic and neodontogenic origin operated in local anesthesia where pathological processes are completely removed, with appropriate pathohistological analysis and standard postoperative therapy was performed.

## **Residual cyst in the upper jaw in patient with implants**

Vrshkovski Z., Bizevski D., Vrshkovski P., Markoski N., Bajramov E.

Successful treatment in fully edentulous maxilla with prominent maxillary sinuses, combined with chronic periodontal disease and residual maxillary cyst in the frontal maxilla, depends on adequate interdisciplinary approach. A residual cyst, as the name implies, is a radicular, lateral periodontal, dentigerous or any other cyst that has persisted after associated tooth has been lost. Residual cysts show more predilections in males and they commonly affect the maxillary region.

The aim of the case presentation is to present a complex all- on- six therapy and later in the postoperative and post restorative period, residual cyst was diagnosed in the area of the implants.

A 60 years old patient with old dental bridges in the upper jaw, prominent maxillary sinuses and chronic periodontal disease was scheduled for implant-supported prosthesis. First the dental bridges were removed, and then the remaining teeth were extracted. Afterwards sinus lift procedures were performed and six implants were placed. Three months later prosthetics rehabilitation was about to start, when panoramix and CBCT were performed. CBCT analysis showed that there was pathological lesion in the frontal maxilla above the area where the implants were placed. This new situation required surgical approach for complete removal of the lesion with simultaneous bone augmentation techniques to preserve the remaining ridge and the implants.

Patohistologic examination was performed after the surgery. Patohistological analysis showed residual cyst from odontogenic origin and the surgical diagnosis was confirmed.

**Keywords:** fully edentulous maxilla, residual cyst, bilateral sinus lift, dental implants

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## **Treatment solutions and protocols for fully edentulous maxilla**

Markoski N., Vlashki Z, Andonova S., Bizevski D. Bajramov E.

Treatment planning and solutions for the fully edentulous maxilla are a real challenge, both surgically and prosthetic ally. The density of the bone in the upper jaw, excessive tooth loss and the maxillary sinus are the difficulties to meet when choosing the right approach to treat the patient. When treating these patients, often interdisciplinary approach is needed, and the results of the therapy should be long observed after the treatment is finished.

To compare and match the differences between treatments solutions for fully

edentulous maxilla with and without the use of sinus lift procedures. Meanwhile the question about successful prosthetic rehabilitation without sinus lift should be considered, both functionally and practically.

Two groups of patients with fully edentulous maxilla, and prominent maxillary sinuses, bilaterally. In the first group of patients sinus lift procedures were performed, and on the other group sinus lift procedures were avoided. Both of groups results were compared surgically and prosthetically.

There were differences between the two groups, especially in the time of the rehabilitation, and postoperative management. Although there were no evident differences between prosthetic successes of final fixed restoration, which shows that sinus lift procedures should be avoided if there is no real indication.

Keywords: fully edentulous, maxilla, sinus lift, implants

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## **Danger zones of the facial region when applying hyaluronic fillers**

Pisevska Cholakova N. Peeva Petreska M.

Dermal fillers, or soft fillers, are gel-like substances designed to inject at different depths into the skin in order to fill in wrinkles, provide and increased facial volume in certain parts of the face, giving a youthful and fresh look.

The purpose of this paper is to emphasize the importance of avoiding the so-called “unnecessary”. hazardous zones where numerous complications may happen.

To accomplish this goal, 69 databases were reviewed: PubMed, Elsevier, Aesthetic Surgery Journal. The importance of this region is pointed out as extremely rich in blood vessels and it is practically impossible to make an injection without damaging a blood vessel.

In the data reviewed, complications are acceptable as long as a small vessel injury is involved. The problem arises from intravasal application or extravasal mechanical pressure of a large volume blood vessel, which can lead to necrosis of part of the skin of the face and even blindness. To avoid such side effects, all precautions should be taken when operating and avoiding application to known hazardous areas of the person.

It is of an utmost importance that this procedure is performed by a doctor trained to perform this procedure who is particularly knowledgeable of the anatomy of human's face vascularisation, ie the region in which the fillers are applied.

Keywords: hyaluron, blood vessels, danger zones

# Презервација на волумен под мостови

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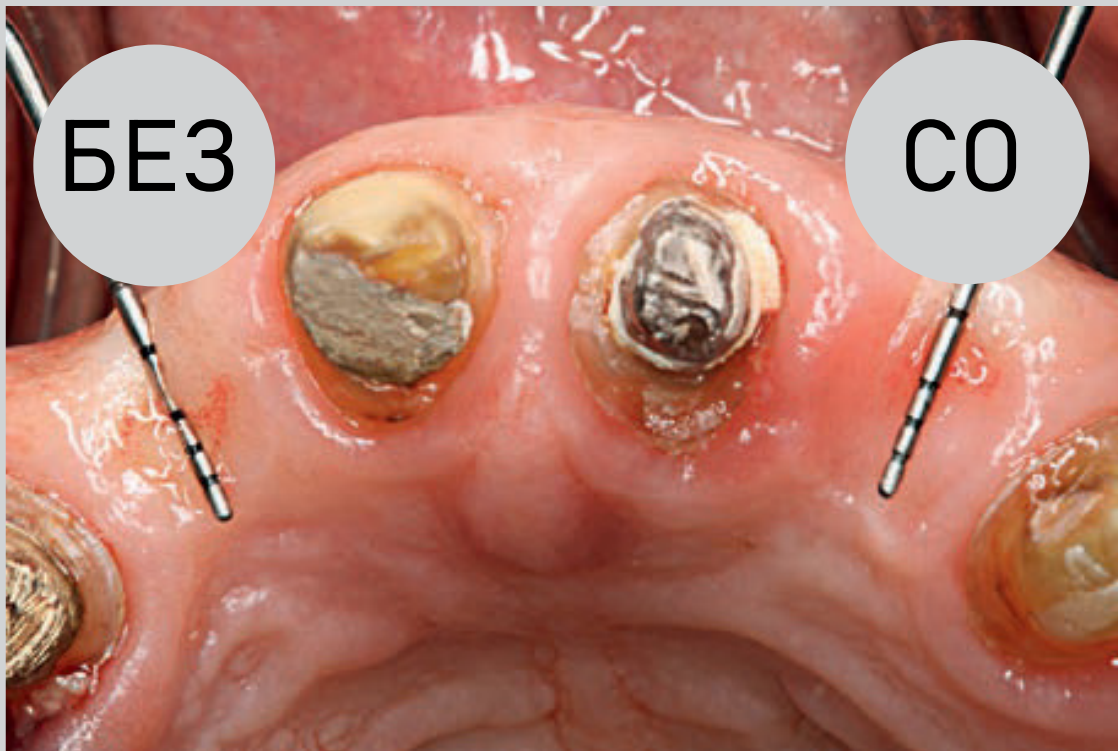
# Задржете го волуменот на ткивото под мостот со презервација на гребенот

Презервација на гребенот е едноставен минимално инвазивен метод после екстракција на забите.

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## Слика:

Контурирање на алвеоларниот гребен со наспроти без презервација на гребенот после 6 месеци (Dr.Stefan Fickl)



# Клиничка процедура – чекор по чекор

Случај на презервација на алвеоларниот гребен за мостова реставрација

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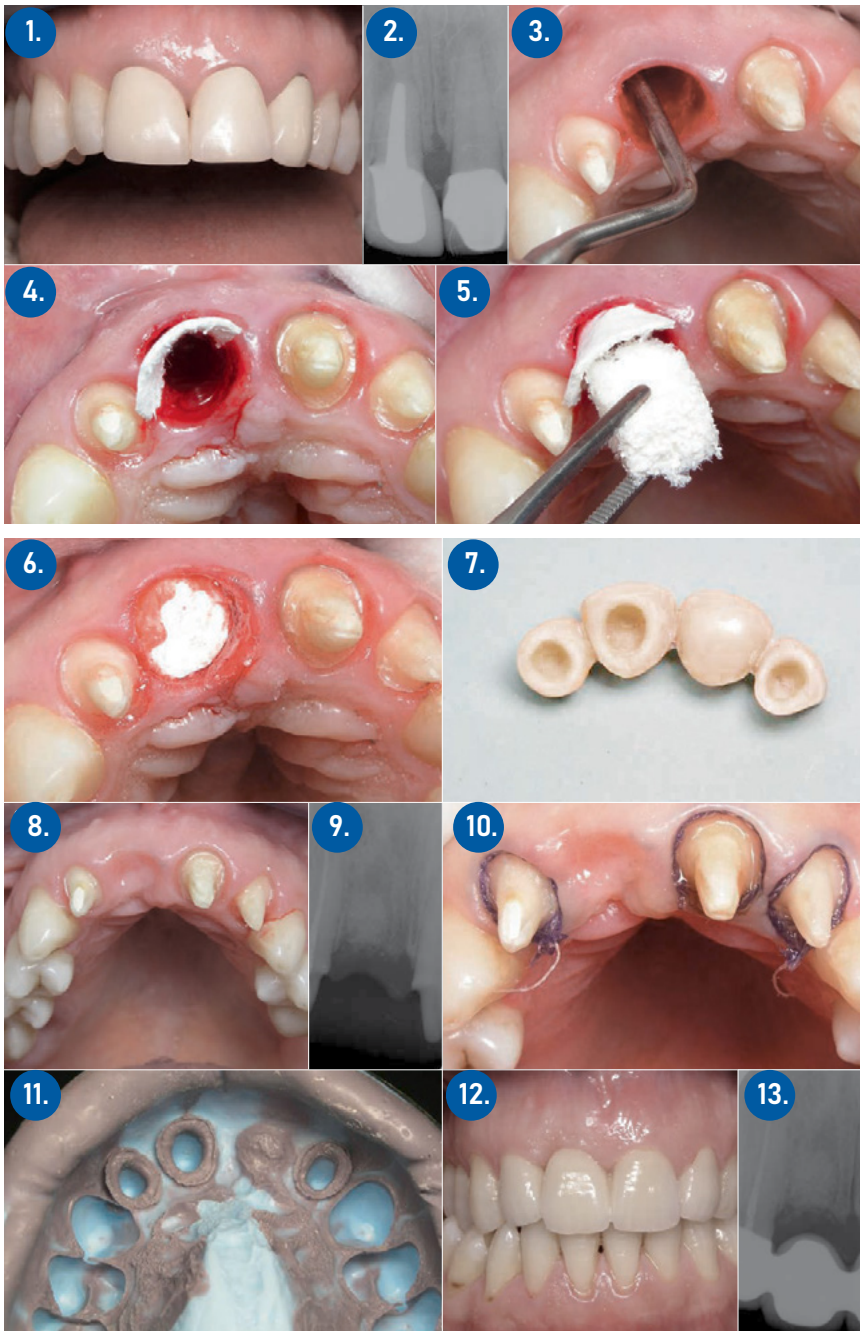
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Естетска регија;  
Недостасува еден заб

Постоечки коскен  
дефект

Дебел биотип на гингивата;  
Интактна папила;  
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1/2. Клиничка и радиолошка иницијална ситуација, Забот 11 треба да се екстрахира;  
3. Минимално инвазивна екстракција. Недостасува букален коскен сид;  
4. Bio-Gide мембраната се аплицира букално на внатрешниот алвеоларен сид;  
5. Алвеолата се исполнува со Bio-Oss Collagen;  
6. Bio-Gide колаген мембраната се превиткува преку исполнетата алвеола со колаген блок. Заздравува спонтано;  
7. Привремена реставрација;  
8/9. Радиолошка и клиничка сосотојба 4 месеци после хируршката интервенција;  
10. Состојба пред отпечатување;  
11. Отпечатување пред изработка на дефинитивниот мост;  
12/13. Естетска и клиничка состојба после 1 година;

Заклучок:

Презервација на гребенот со Geistlich биоматеријалите гарантира дека волуменот на ткивото ќе биде зачуван. Ова посебно се однесува кај пациентите кои имаат естетски барања во фронталната регија при изработка на мост, а после екстракција на заб.

A black and white photograph of a grand, classical-style building with a large dome. In the foreground, a row of statues of men in suits stands on a raised platform. Ornate street lamps with multiple lanterns are positioned along the walkway. A flag flies on a tall pole in the background. The sky is clear.

**POSTER  
SESSION**



## **Treatment of gingival hyperplasia in a patient with periodontal and systemic diseases**

Alku-Latifi O.

Gingival hyperplasia presents a major functional and aesthetic problem of periodontal, systemic, hormonal and idiopathic origin. It is manifested by a chronic inflammation of the gingiva.

An elderly 60-year-old patient who presented to our clinic in 2015 referred to gum swelling for several years, while prosthetic work was established in 2007. At the clinical examination, low levels were noted of oral hygiene, hyperplasia extending to the papilla, free gingival margin and attached gingiva; calculus, provocative and spontaneous bleeding, pus, presence of inadequate bimaxillary fixed prosthetic bridges. Radiological examination revealed combined horizontal to vertical bone loss, loss of lamina dura continuity, rarefaction of the bone. In laboratory tests, the patient was suffering from recurrent urinary tract infections, in the presence of enterococcus and leukocytosis. The patient was in therapy with aspirin and anti-hypertensive drugs (Ca antagonist, Beta blockers, Angiotensin II receptor blockers).

Treatment included medication therapy, followed by basic periodontal therapy. Meanwhile, the present bridges were removed and gingivectomy was performed with laser. Temporary resin bridges were maintained for 1 month and then metal-porcelain bridges were prepared. The patient's condition is improved. Patients using anti-hypertensive drugs and fixed prosthetic bridges require a good collaboration between the patient, the dentist and the cardiologist to control the possibility of gingival hyperplasia.

Key words: gingival hyperplasia, anti-hypertensive drugs, basic periodontal therapy, laser gingivectomy

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## **Application of electrocautery in the treatment of gingival enlargement**

Mindova S., Stefanovska E., Ristoska S., Janev E., Toshevskva S.

Gingival enlargement is defined as abnormal growth of the gingiva as a part of periodontal tissue. Gingival enlargement results in aesthetic changes with clinical symptoms, including pain, bleeding, difficulty with mastication and speech, pathological tooth migration, caries development, and periodontal disease. A patient with a diagnosed periodontal disease was follow up at the Clinic for oral and periodontal disease, with a manifestation of gingival enlargement, due to antihypertensive therapy. After a conservative treatment, a 30 V power with cutting and coagulation option was applied. Gingival enlargement therapy with electrocautery has proven to be a good method for correction of gingival tissue.

Keywords: gingival enlargement, periodontal disease, caries, bleeding.

## **Treating of fully edentulous lower jaw by using of implant supported denture retained with milled bar: clinical case report**

Piperevaliev Tome, Dragovikj Viktorija

Treating of fully edentulous mandible, is challenge for doctors of dental medicine. Using of contemporary acrylic denture is a basic standard in prosthetic rehabilitation of fully edentulous jaw. But this treatment option has a number of disadvantages that patients feel: lack of comfort, insufficient retention, stabilization, and difficulties in speaking and chewing.

The aim of this presentation is to present a clinical case of treating a fully edentulous lower jaw by using an implant supported acrylic denture, retained through milled bar that is screw-retained on four dental implants.

We are presenting a female patient at the age of 76 years with diagnosed partially edentulous lower jaw. The remaining three teeth are extracted and delayed implantation of four implants in the anterior region of mandible is done. The prosthetic loading of the implants is performed after four months of osseointegration period. Prosthetic construction involves a producing of milled bar that is screw-retained to the implants through multi unit abutments. The milled bar is used for retention and stabilization of the full acrylic denture. The using of milled bar as a retentive element, enables a rigid splint fixation of dental implants. Milled bar that is screw-retained to the implants, reduces the risk of peri-implantitis caused by materials used for cement fixation of the prosthetic constructions.

Implant retained denture is scientifically and clinically proven method which provides good retention and stabilization of the denture during the functions of the masticatory system.

Keywords: implant overdenture, milled bar, dental implants

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## **Treatment of bone osteonecrosis with Platelet rich fibrin**

Evrosimovska B., Veleska-Stevkovska D.

Complementary treatments to surgery – such as laser therapy, ozonotherapy, hyperbaric oxygen therapy and autologous platelet concentrates - have been used to improve the healing of bone and epithelial tissue, reducing lesion recurrence. Choukroun's platelet-rich fibrin (PRF) is a healing biomaterial with a great potential for bone and soft tissue regeneration, without inflammatory reactions and may be used alone or in combination with bone grafts, promoting haemostasis, bone growth and maturation. PRF has now been widely utilized in dentistry for a variety of procedures to help reparation and regeneration of oral soft and bone tissues.

A fifty-two years old woman came to the Clinic of Oral surgery and Implantology at the University Dental Clinical Centre in Skopje with pain and inflammation in the molar region of the mandibula due to a prior extraction of the first molar performed two mounts ago. Anamnestic data confirmed presence of insulin dependent Diabetes mellitus and revealed the reason for persistence of necrotic bone and nonepithelized extraction wound. After removing of necrotic bone, PRF membranes were applied to help in wound healing, protecting the surgical site and promoting soft tissue repair. After two weeks surgical side was cover with new epithelial tissue.

The use of L-PRF showed an expressive influence on the complete wound healing in postoperative period and in the resolution of treatments, drastically reducing the need for postoperative re-interventions. This autologous and inexpensive material can be considered as an optimized blood clot and L-PRF matrix seems a relevant biomaterial for natural bone regeneration, with a significant slow release of growth factors.

Keywords: Platelet rich fibrin, osteonecrosis, bone and soft tissue regeneration.

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### **Use of nonresorbable PTFE membranes in preservation of the alveolar ridge**

Spirov V., Rogleva S., Gorovska M., Murtezani A., Trajculevski S.

One of the most frequently performed interventions in current oral surgical practice is the extraction of teeth. After the extraction, a biological remodeling phase of the alveolar ridge follows, resulting in resorption of the alveolar ridge both vertically and horizontally. To a large extent, this has the effect of installing a dental implant at this point. In order to maintain the width and height of the alveolar ridge, a large number of operative techniques for preserving the extraction wound are used. In our article, a preservation technique will be presented using the non-resorptive dPTFE membrane, which allows open healing of the extraction wound, and xenograft will be used as a substituted material. Also, the application procedures and fixation of these dPTFE membranes will be explained in detail, and the results of this technical procedure will be presented.

Keywords: preservation of the alveolar ridge, non-absorptive membrane

## Osseodensification: A Review of Published Literature

Dragovikj V., Piperevaliev T

Relatively new, osseodensification is a technique that uses specially designed burs which allow bone condensation through compaction autografting during osteotomy preparation.

The purpose of this study was to show the utilization of osseodensification as a surgical technique in oral implantology through summary of the studies and review of the literature up to February 2020.

The study is a sublimation of scientific studies in two databases: PubMed (MEDLINE) and Google Scholar. The following keywords were selected to search for relevant articles: “osseodensification,” “densah,” “bone density,” with no restriction set on document type. The selected studies evidently demonstrate that the method of osseodensification is most widely used for the following procedures: immediate implantation, ridge expansion, crestal sinus floor elevation, when dealing with D3 and D4 type of bone. In osseodensification, as an implant site preparation technique, an increase in bone density is achieved as the osteotomy site is expanded, with minimal bone loss. Using this technique, a densified layer of surrounding bone is created which contributes to greater primary stability of the implant.

Although studies of long follow-up periods are required before implementing it in the regular daily practice, osseodensification is a very promising technique that should be considered especially in borderline cases in which the outcome of the conventional implant placement would be questionable.

Keywords: osseodensification, bone density, autografting

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## Immediate computer guided implant surgery in the esthetic zone

Tasevski D., Veljanovski D., Gugusovska –Trajanoska A., Spirov V.

The introduction of the computer guided implant surgery in the dental practice has enabled simpler, faster and less invasive clinical implantation procedures. The precise 3D placement of the dental implants is the main prerequisite for successful implant surgery, which main goal is satisfactory prosthetic outcome.

To present the complete procedure of immediate implant placement with a surgical guide, from the initial software planning to the functional and esthetic rehabilitation of the patient with temporary crowns.

A healthy female patient presented with destructive caries of teeth 11, 21, 22 and 23 under fixed prosthetic construction. Due to the inability of their restoration,

the teeth were extracted and immediate implants using surgical guide were placed. A allograft bone material was used as a augmentative material. The implants had sufficient primary stability to be immediately loaded with temporary screw retained crowns. This enabled a full rehabilitation of the patient during the period of the osseointegration and excellent soft tissue healing.

The computed guided implant surgery is a superior method of implant placement with huge clinical benefits for both the clinician and the patient.

Key words: immediate implant placement, esthetic rehabilitation, computer guided implant surgery, primary stability.

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## **One-Phase Versus Two-Phase Dental Implant Treatment**

Velkoska E., Pisevska-Colakova N., Markovska-Arsovska M., Velkoska-Kukunesoska G., Minakova-Filiposka I.

Osseointegration is a direct structural and functional connection between the existing bone and the surface of the already placed implant. One of two surgical protocols are used to achieve this goal: a submerged and non-submerged way of healing of the endosseal implant placed as part of the oral rehabilitation.

The purpose of this presentation is to explain the views and the practice of doctors working in the field of implantology pertaining to the use of gingival formers versus full submersion of implants immediately after their placement.

This presentation is a collection of several studies and scientific papers published in international field specific journals. Key words were: osseointegration, 1- versus 2-stage implant placement, bone density around implant. Results emerging from our work so far, as well as from clinical research published and everyday use of dental implants show that there is not a statistically significant difference between the one-phase and two-phase surgical protocol. The decision depends on the case itself and differs from patient to patient. Although there isn't a statistically significant difference, a two-phase approach is proposed in the case of a toothless jaw. Contrary to that, a one-phase approach is recommended in cases of partial toothlessness, avoiding an additional surgical intervention reducing the time of treatment.

Conclusion: In cases where one or two teeth are missing or we have a unilateral partial toothlessness, a one-phase or non-submerging approach is recommended, however that also depends on the experience and assessment of the implantologist.

Keywords: osseointegration, 1- versus 2-stage implant placement, bone density around implant.

## **Chronic periodontitis as risk indicator for peri-implantitis**

Petrovski M., Papakoca K., Terzieva-Petrovska O., Minovska A.

Peri-implantitis is an inflammatory process caused by a microbial origin and it can lead to bone loss and if not treated could cause loss of the implant-supported prosthodontic restoration. Previous periodontal disease is most common noted risk indicator for peri-implantitis. The main aim of this study was to evaluate if patients with a history of chronic periodontitis are more susceptible to peri-implantitis than patients without history of chronic periodontitis.

Total numbers of 75 subjects with 84 osseointegrated implants were evaluated. All patients were divided into two groups according to their peri-implant status: group A (patients without peri-implantitis) and group B (patients with peri-implantitis). All peri-implant regions were clinically evaluated (presence of mucosal inflammation, edema and implant mobility) and periapical radiographs were done for accessing peri-implant bone loss. On all of the patients, a periodontal examination was done for noting the presence of the clinical signs and symptoms of chronic periodontitis. Results from this study showed a highly significant correlation between history of chronic periodontitis and peri-implantitis ( $p < 0.0001$ ). Patients with chronic periodontitis had shown higher bleeding on probing index ( $p = 0.003$ ) when compared with patients without chronic periodontitis. Also this groups showed higher bone loss around implants ( $p = 0.006$ ) Also, patients with chronic periodontitis showed 5 times more chance of developing peri-implantitis than those with healthy periodontium.

This study once again proved that chronic periodontitis is a significant risk indicator in the development of peri-implantitis.

Keywords: chronic periodontitis, peri-implantitis, risk indicator, periodontal examination

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## **Sophisticated graft materials and barrier membranes for oral surgery and dental implantology applications**

Rogleva S., Spirov V.

Regarding to the need of graft materials and barrier membranes applications, it is known that bone loss and jawbone defects from different etiology are common, so their usage and features are increasingly being examined and analyzed.

The main aim of this review article is to evaluate the data bases presenting the different kinds of graft materials and barrier membranes applications which are dating in this new era and benefits from their usage.

Significant is the fact that bone graft materials are used as a scaffold to replace the missing bone and for new bone growth. These materials can be derived from a patient's own body like natural substitutes or can be from a synthetic origin. On the other hand, the different barrier membranes have a role to protect and stabilize graft material and to enable better regeneration. The materials which are acceptable for augmentative procedures depend from clinical case and from specific features. Advances in technology and sophisticated materials for bone grafting offer numerous solutions and different treatment options for patients with bone deficiency. The new way of solving large bone defects proved as successful in cases treated with a bone graft combined with a barrier membrane.

Key words: graft materials, barrier membranes, augmentative procedures, regeneration

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## **Perioperative prescription of antibiotics vs. the phenomenon of antimicrobial resistance**

Terzievska A., Mencheva Z., Grozdanovski S.

Excessive or inappropriate use of antibiotics can lead to the emergence of resistant bacteria which don't respond to treatment with antibiotics, as seen in recent decades. This phenomenon, called antimicrobial resistance so called AMR, poses a threat to disease control is a primary concern for human health. Antibiotic resistance can be primary (in *Pseudomonas* spp.), acquired and cross-linked.

Determination of the level of justifiable prescription of antibiotics in oral surgery

The study included 30 patients indicated and treated at the University clinic of oral surgery „St. Pantelejmon “-Skopje.

The questionnaire used, contained following data: the age and sex of the patient, work experience of the therapist, indication for oral surgery (diagnosis), type and duration of the intervention, the therapist's perception of the severity of the intervention and inclusion/exclusion of antibiotics in prophylactic or therapeutic purposes by the therapists. High indication of misuse of antibiotics in perioperative period is detected.

The analysis of the obtained results creates new perspectives on the perception of the phenomenon of antimicrobial resistance and need of raised awareness and responsibility as therapists.

Keywords: antibiotics, antimicrobial resistance, oral surgery, therapist.

## **Application of lasers in mucosal surgery**

Ismaili B., Peshevska S., Spirovska N.

Laser application in dentistry, starting with pediatric and preventive dentistry, conservative dentistry, endodontics, prosthodontics, periodontology, finishing with oral surgery, takes part as a way of therapy.

Through clinical cases, we will present the effects of diode laser and Er;Cr:YSGG laser, as a removing of labial cysts, fibromas and scars, biopsy, pre-prosthodontics surgery, therapy of hemangiomas and etc. The effects of the use of diode and Er;Cr:YSGG laser in outpatient practice in 15 patients were followed. Patients were monitored for level of pain, epithalization time and adverse effects of complications after surgery. Most of the interventions can be performed with superficial anesthesia, are more pleasant than the traditional method, there are no unpleasant noises or vibrations and in most cases, the procedure is painless or has some minor, enduring pain. Complete epithalization takes within 14-21 days of surgery, with better wound healing and greater comfort for the patient. Absence of bleeding and a clean work area are benefit to the therapist during the intervention.

The 940 nm wavelength laser enables less force cutting without tissue overheating, which contributes to better wound healing and greater comfort for the patient and therapist during the intervention. Painless, minimally invasive dentistry and the most enjoyable feeling for our patients is the ultimate goal in which lasers fulfill exceptional possibilities.

Keywords: diode and Er;Cr:YSGG laser, periodontology, oral surgery, epithalization

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## **Orthodontic and surgical management of mandibular impacted second molar**

Dimitrovski. V., Pisevska Cholakova N., Petrova E. Apostolova G., Zivkovic N.

Although the prevalence of impaction and second molar retention is very low, retention of this tooth can be a real functional problem in the oral cavity, leading to a loss of posterior support and reduced masticatory potential. The second molar plays an important role in the secondary physiologic elevation of vertical dimension of permanent dentition. Prevention and treatment can alleviate these problems.

A 13-year-old patient with already started orthodontic treatment at 12.5 years of age with diagnosed maxillary protrusion and II/1 malocclusion was sent to the Clinic for oral surgery for follow-up and treatment of impacted and retinated second mandibular molar. The panoramic image shows an impacted and retinated second left molar with slightly more than two-thirds of a complete root growth and with its occlusal surface below the neck level of the first permanent molar as well as below the occlu-



sal surface at the beginning of the third molar. In accordance with the overall orthodontic treatment and on the recommendation of an orthodontist, a third left molar germectomy was performed, as well as corticotomy and release of the coronary part of the second permanent molar to a depth of two-thirds of the tooth crown height and subsequent attachment of the fixator for further extrusion of the tooth.

The evaluation of the outcome of the surgical treatment in a patient with unilateral second molar impaction and retention, gives an insight in establishing normal occlusion in a horizontal and vertical direction.

Keywords: impacted teeth, second molar, surgical treatment

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### **Oral surgery management in patients with renal transplantation**

Josifov D., Janev E.,

Organ transplantation is one of the biggest advances of the modern medicine, which started to evolve during the second half of 20th century. The first real success in renal transplantation was achieved in 1954 and is continuously developing until these days.

However the risks in this kind of patients while performing the oral surgery interventions obligates us to be extremely cautious and to work by all medical doctrines, therefore not to compromise the success of the transplantation and endanger the patient's life.

This paper briefly explains the most important dental procedures before renal transplantation and oral surgery protocols after it.

Keywords: renal transplantation, kidney, oral surgery

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### **Haemangioma capillare - a case study**

Bizevski D., Markoski N., Bajramov E., Andonova S. Kangova D.

Hemangiomas are broadly defined as a variety of developmental vascular abnormalities. However, in recent times, they have been considered benign tumors characterized by rapid growth and proliferation of endothelial capillary cells, followed by gradual invasion in most cases. Hemangiomas are mainly found in soft tissues. Those tumors that are both on the bone and bone tissue are rare and make up about 1% of the total number of hemangiomas. They occur in the second decade of life, especially in women. The most common localization is the spine and skull, while the maxilla, especially the palate, and the mandible are very rare localizations. The appearance of hemangiomas

of these anatomical structures may lead to difficulties in differentiation and diagnosis.

To show a case of a patient with diagnosed palatal tumor, the diagnostic and therapeutic procedures that follow and will lead to a proper final diagnosis and treatment.

A patient at the age of 54 visited the clinic due to a tumor-like formation on the palate, which appeared and persisted for several months without changes in growth and shape. On clinical examination we noticed a tumor change in the upper jaw on the right side of the palate in the height of the upper molars. The formation looked like epulis fissuratum. An excision biopsy was performed under local anesthesia and the material was sent for pathohistological analysis. Mechanical methods of hemostasis failed, so thermo cauterization was done.

Pathohistological finding showed stromal connective tissue containing numerous blood vessels, with no signs of malignancy in support of hemangioma capillare diagnosis.

Keywords: hemangiomas, benign tumors, excision biopsy, pathohistological analysis.

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## **Oral-surgical treatment of periodontal pocket with guided bone and soft tissue regeneration**

Pop-Janeva I., Evrosimovska B., Pop-Janeva B.

Loss of the bone support by creating a periodontal pocket is one of the most common cause of tooth extraction. Their treatment can be conservative and surgical.

The purpose of this paper is to demonstrate the treatment of infrabony periodontal defects of the maxillary second right molar with bone and soft tissue regeneration.

The patient was admitted to the oral surgery clinic with no signs of acute infection and no luxation changes. After the RTG analysis, the maxillary second right molar showed the presence of an infrabony vertical defect on the mesial side. Surgical treatment was performed including open flap debridement and filling the defect with xenograft and plasma rich fibrin. The application of xenograft and plasma rich fibrin resulted in bone regeneration of the defect and successful fixed prosthodontic solution.

Guided bone and soft tissue regeneration using xenograft and fibrin-rich plasma gives successful radiological and clinical signs of bone augmentation and consolidation of defects caused by loss of tooth attachment.

Keywords: periodontal pocket, xenograft, PRF

## **Influence of platelet- rich plasma (PRP) after surgical removal of impacted lower third molars**

Papakoca K, Petrovski M., Terzieva-Petrovska O., Minovska A.

Surgical extraction of mandibular third molars often causes pain, swelling and bony defects and prolonged postoperative recovery of patients. The main aim of this study was to assess whether the use of platelet-rich plasma can cause decreasing of the pain and swelling in the postoperative period after third molar surgery.

The case-control study was undertaken in one private dental office and included 30 patients divided in two groups; group A consists of 15 patients where PRP was placed in the extraction socket before surgical closure and group B consists of 15 patients as a control group where the extraction sockets will be closed without any medicaments.

Soft tissue healing was better in the PRP compared to the control site. In this group there were no patients with bleeding on palpation or granulation tissue formation. Bleeding on palpation was present in one patient on the first day in control group. Mann-Whitney U test showed no significant difference between immediate postoperative pain and after 1, 3 and 7 days between the case and control groups. There were significant difference between the immediate postoperative swelling after 1 and 3 days between the case and control groups. The postoperative complication dry socket was observed in three patients in the control group and in 1 in the study group.

The study has shown an improvement in the soft tissue healing after third molar surgery in cases treated with PRP compared to the control group after surgery.

Keywords: platelet-rich plasma, impacted lower third molars, post-operative healing

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## **Surgical management of palatine torus**

Kacarska M., Gjorovska M.

Palatine torus is an irregularly shaped exostosis in the hard palate along the median suture. Although being considered a non-pathological condition, detection of a palatine torus requires attention and knowledge of its management. Surgical removal is deemed necessary when rehabilitation of the upper arcade with complete dentures is required, or when this area is traumatized during mastication.

The objective of this article is to present a case and surgical management of palatine torus.

A 72-year-old female was referred to the Department of oral surgery for extraction of remained teeth in the upper jaw. A significant spindle shaped palatine torus was ev-

ident that would most certainly impede the fabrication of complete upper denture. Therefor surgical removal of the exostosis under local anesthesia was performed. Surgery was complex and demanded patience and steady hand. The patient was followed until healing was completed.

Palatine torus is an uncommon lesion and its surgical management when necessary requires careful planning and attention to gain results and minimize complications.

Key words: palatine torus, exostosis, surgical management, complete upper denture

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### **Articaine - anesthetic of choice in oral surgery**

Lamevski M., Gurcevski J., Trajculevski S., Veleska-Stevkovska D.

Local dental anesthesia is one of the most frequent procedures without which most dental procedures cannot be imagined. Indications for local anesthesia are increasing, making local anesthesia a particularly important part of daily dental practice.

The aim of this study is to summarize the information derived from the analysis of local anesthetics and to emphasize the superiority of articaine over other anesthetics.

To accomplish our goal, we reviewed existing papers in the PubMed medical database, including reviews and clinical trials comparing local anesthetics, with the keyword articaine comparative dental anesthesia, analyzing a total of 85 papers, from which 30 papers represent concrete comparative analysis. Only clinical human studies in the last 10 years have been included in the analyzes. Artikaine contains a thiophene ring that provides greater lipid solubility which accelerates diffusion through the nerve membranes. In addition, articine also contains an ester group, which hydrolyzes into the blood plasma under the action of nonspecific cholinesterases, is subsequently metabolized and excreted primarily by the kidneys. Liver and kidney function declines by 50% at age 65 and additionally beta-blockers reduce blood flow in the liver so articaine would be an anesthetic of choice in this patient group. The ability for greater bone penetration makes articaine superior to other anesthetics. It is considered to be safe for use in the youngest population, although it is recommended to be over 4 or over 7 years old, due to the possibility of injury.

According to the analyzed studies, articaine should in most cases be an anesthetic of choice in oral surgery and non-surgical dentistry as the dominant anesthetic in terms of potency, duration and safety.

Keywords: anesthesia, articaine, potency, safety.

## **Surgical revision of radicular cyst in mandible with combination of substitution and regenerative therapy (Case report)**

Zivkovic N., Apostolova G., Dimitrovski V., Piperevaliev T., Pisevska- Colakova N.

Radicular cysts are the most common inflammatory cystic lesions in the jaws of odontogenic origin. The treatment consists of endodontic treatment of the affected teeth and total enucleation of the cyst.

The aim of this paper is to demonstrate the treatment of a recurrent radicular cyst in the frontal region of the mandible with combined application of substitution and regenerative therapy.

The patient was admitted at the Department of oral surgery with symptoms of acute odontogenic infection and fistula present in the mandibular fornix. Anamnesic data indicated past surgical therapy on two occasions in this area, while RTG analysis showed a re-presence of well defined, unilocular radiolucency, including all four mandibular incisors. A surgical extirpation of the cyst was performed and the bone defect was filled with xenograft in combination with fibrin-rich plasma.

Xenograft application in the treatment of jaw cystic lesions accelerates the healing process of bone defect through osteoconduction forming a matrix that will serve as the basis for osteogenesis. The matrix is enriched by factors from fibrin-rich plasma.

A 12-month follow-up showed consolidation of bone tissue and confirmed that combination therapy significantly improved bone regeneration

Keywords: radicular cyst, xenograft, PRF

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## **Clinical implication of large radicular cyst masquerading the entire maxillary sinus: case report and follow-up**

Serafimovski P., Pecanovski R., Stamatovski A., Koneski F.

Radicular cysts can present a diagnostic challenge. They cause slowly progressive swelling and may be asymptomatic until they become large. Diagnostics is based on panoramix x-ray and CT in some cases. It is important to identify anatomical structures such as maxillary sinus, orbital floor and nasal floor. Surgical treatment is recommended as primary treatment.

A 61-year-old male patient, smoker, was referred to our department, due to a marked cyst-like formation in the maxilla, on a routine radiographic imaging. He denied any subjective problems at that time, but provided information for intermittent

pain in the left anterior and posterior maxilla associated with purulent gingival discharge, 18 months ago. No paresthesia, nor lymphadenopathy were found. Intraoral examination revealed a swelling in the buccal and palatal area, extending from the left maxillary central incisor to the second molar with present Dupuytren's phenomenon. Adjacent teeth showed severe periodontal disease and no vitality. Panoramic radiograph revealed a well-defined unilocular lesion (5cm×3.5cm) in a close proximity to the maxillary sinus. After initial and differential diagnosis, a surgical treatment was planned and complete enucleation was performed under general anaesthesia. All left anterior and posterior maxillary teeth were extracted due to severe periodontitis. Maxillary sinus stayed intact. Histopathological examination of the cystic lining confirmed the diagnosis of radicular cyst. Three-month follow-up showed no evidence for any problems and x-ray image revealed moderate bone opacity.

Early diagnosis using imaging modalities is important to reduce morbidity and to avoid aggressive treatment. Evaluation of spontaneous bone healing after enucleation of large radicular cysts is the key for successful management.

**Keywords:** radicular cysts, Dupuytren's phenomenon, histopathological examination, spontaneous bone healing

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## **Preprosthetic surgical treatment of torus mandibulae**

Baara- Simonovska T., Malenkov H., Nacevski D.

Prosthetic surgery involves a series of surgical procedures to correct unfavorable conditions for prosthetic therapy in persons with partially or totally edentulous patients. The mandibular torus is a bone exostosis with unknown etiology located on the lingual side of the lower jaw body in premolar and molar region. Successful prosthetic rehabilitation requires surgical removal of exostosis.

The purpose of this study is the clinical presentation of surgical treatment of mandibular torus in a toothless mandible in order to form a well-functioning biological platform as a retention and stabilization mechanism that will provide good prosthetic rehabilitation and prevent further bone loss.

An 86-year-old patient with unilateral mandibular torus located lingually in the premolar region. Surgery has been performed to remove the exostosis by osteotomy. The patient was followed for one week, 1 month and 3 months after the intervention.

Torus mandibulae is a common occurrence in the world population, with different dimensions for each individual, and if strongly developed, the need to remove it for successful prosthetic rehabilitation is inevitable. The patient is followed until the preparation of the total dentures that are well retained and provide smooth chewing and speaking function.

The number of patients for pro-prosthetic surgery is increasing, due to the increased awareness of patients about the surgical procedure which will have a huge benefit in prosthetic rehabilitation, reducing the number of correction visits and easier patient acceptance.

Keywords: prosthetic surgery, prosthetic rehabilitation, torus mandibularis, bone exostosis

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## The Application Of PRP In A Temporomandibular Joint Pain

Dr. Jasmin Fidoski. Private dental office - Dentin - Skopje, North Macedonia.

Dr. Fisnik Kasapi. Oral surgeon. Private dental office - Dentin- Skopje, North Macedonia.

Dr. Aleksandar Bochvarov. Private Dental Office - Dr. Bochvarov, Skopje, North Macedonia.

Backdrop: In the treatment of temporomandibular joint (TMJ) dysfunction pain syndrome a number of conservative methods are used. Platelet-rich plasma (PRP) is a natural concentrate of autologous blood growth factor. Periarticular application of PRP and creating of oedema around the TMJ can be very simple approach for treating of TMJ pain instead of intraarticular application.

Objectives: The aim of this study was to analyse the reduction of pain in patients with temporomandibular joint dysfunction using novel PRP periarticular injections around TMJ.

Methods: In the study were included 120 patients, both males and females, aged 32–62 years, assessed with a painful temporomandibular joint dysfunction using the latest version of the RDC/TMD questionnaire axes I and II. Application of PRP was conducted using new principle based on creating of periarticular oedema around the TMJ with a PRP prepared with patented Plasmolifting tubes. PRP was injected three times on seven days intervals.

Results: The comparison of the intensity of pain during three examinations suggests a favourable effects of the procedure being performed, as the mean visual analogue scale score was 7.1 at examination I, 5.4 at examination II, and 0.5 at examination III.

Conclusion: The preliminary results indicate that the periarticular application of PRP with creating of oedema provide positive results of the pain reduction in TMJ dysfunction and it might be reasonable to investigate the efficacy of this technique in other TMJ disorders.

Key words:  
TMJ, PRP, TMJ pain.

## **Fully Autologous Material For Preparation Of Membranes and Grafts In The Oral Surgery.**

Dr. Fisnik Kasapi. Oral surgeon. Private dental office - Dentin- Skopje, North Macedonia.

Dr. Jasmin Fidoski. Private dental office - Dentin - Skopje, North Macedonia.

**Backdrop:** Sticky bone (SB) and the platelet-rich fibrin (PRF) were developed as an advanced form of platelet-rich plasma to eliminate xenografts (such as bovine thrombin) and allografts which are mainly used as a source of growth factors for tissue regeneration and also as a substitute for commercially available barrier-membranes and grafts in guided-tissue regeneration (GTR) treatment. However, the PRF membrane is resorbed within two weeks at implantation sites; therefore, it can barely maintain sufficient space for bone regeneration.

**Objectives:** Testing of the usefulness on the new optimised heating system (with/without using of microwave and ultrasound) for producing of fully autologous barrier membrane and replacing bone-graft material.

**Methods:** The biodegradability of a new material was microscopically examined in vitro by treatment with plasmin at 37 °C and in vivo by subcutaneous implantation in Wistar rats.

**Results:** The biothermal plasma (BTP) material appeared plasmin-resistant and stable for 30 days in vitro and it functioned as excellent scaffolding material for periosteal cells in vitro. In animal implantation studies, BTP material was observed at least for 35 days post implantation in vivo while the control PRF was completely resorbed within 10 days.

**Conclusion:** These findings suggest that BTP materials possess longer rate of biodegradation without sacrificing its biocompatibility and that BTP material could easily be prepared friendly from a clinical perspective and widely applied as a barrier membrane and/or for replacing bone graft materials in the GTR treatment and in other types of oral surgeries.

**Key words:**  
bone grafts, PRP, PRF, Guided bone regeneration.



## SCIENTIFIC PROGRAM

ZOOM online meeting	Lecturers
<b>Friday 02.10.2020</b>	
09:00-09:10	Opening (speech from the presidents)
<b>SESSION 1</b>	Moderator: Pisevska Cholakova Natasha
09:10-09:50	Associate Prof Dr Snjezana Pohl, Croatia
09:50-10:30	Prof Dr Ivan Tusek, Serbia
10:30-11:10	Prof Dr Curd Bollen, Netherlands
11:10-11:30	Discussion
11:10-12:00	Coffee break
<b>SESSION 2</b>	Moderator: Veleska Stevkovska Daniela
12:00-12:30	Dr Elaine Berkowitz, USA
12:30-12:50	Dr. Gurien Demiraqi, PhD, Albania
12:50-13:30	Prof. Dr Mustafa Ramazanoglu, Turkey
13:30-16:00	Oral presentations 1-10
	Moderator: Koneski Filip
16:00-16:30	Discussion
<b>Saturday 03.10.2020</b>	
<b>SESSION 3</b>	Moderator: Velkoska Elena
09:10-09:50	Prof Dr Marija Peeva Petreska, Macedonia
09:50-10:30	Dr. Robert Oretti, UK
10:30-11:10	Dr Kleantis Manolakis, Greece
11:10-11:40	Doc Dr. Kenan Ferati, Macedonia
11:40-12:00	Discussion
12:00-12:20	Coffee break
12:20-14:40	Oral presentations 11-18
	Moderator: Anastasovski Stefan
14:40-15:00	Discussion
<b>SESSION 4</b>	Moderator: Kasapi Fisnik
15:00-15:40	Prof. Dr. Angelo Cardarelli, Italy
12:00-16:00	Poster session
16:00-16:10	Closing (speech from the presidents)

ZOOM online meeting	Oral presentations
<b>Friday 02.10.2020</b>	<b>Moderator: Koneski Filip</b>
13:30-13:40	<b>Aneta Atanasovska Stojanovska</b> Combined strategies to improve the results of regenerative periodontal surgery
13:45-13:55	<b>Veska- Stevkovska Daniela</b> PRF- A novel approach in the treatment of periimplantitis
14:00-14:10	<b>Baftijari Denis</b> Evaluation of implant stability at L-PRF combined with deproteinized bovine bone mineral -DBBM for early implant placement after maxillary sinus augmentation
14:15-14:25	<b>Selvaraj Balaji</b> Vertical and horizontal augmentation using Guided Bone Regeneration technique to treat severely resorbed posterior mandible with e-PTFE membrane, particulated autogenous bone and xeno graft particles
14:30-14:40	<b>Veljanovski D.</b> The influence of bone material use on vertical bone level alterations in immediate mandibular molar implants
14:45-14:55	<b>Recani B.</b> Dental implants - Technology complements competence
15:00-15:10	<b>Spirov V.</b> New Implant Exposure Techniques
15:15-15:25	<b>Xhaferi B.</b> Use of autologous dentin graft in augmentation of bone defects in jaw bones
15:30-15:40	<b>Omerov E</b> Peri-implant treatment
15:45-15:55	<b>Redjep E.</b> Complication in dental implants
16:00-16:30	<b>Discussion</b>
<b>Saturday 03.10.2020</b>	<b>Oral presentations</b>
	<b>Moderator: Anastasovski Stefan</b>
12:20-12:30	<b>Irina Trajkovska Zareska</b> Safety methods for cementation of dental crowns over implants
12:35-12:45	<b>Janev E.,</b> Multi- unit abutments recommended in prosthetic and implantology treatment
12:50-13:00	<b>Jordan Gjurceski</b> GOW GATES-alternative technique or technique for everyday use
13:05-13:15	<b>Evrosimovska B.</b> Matrix metalloproteinases as regulators of inflammatory processes in oral cavity
13:20-13:30	<b>Bizevski D.</b> Differential diagnostic and therapeutic aspects of jaw cysts
13:35-13:45	<b>Vrshkovski Z.</b> Residual cyst in the upper jaw in patient with implants
13:50-14:00	<b>Markoski N.</b> Treatment solutions and protocols for fully edentulous maxilla
14:05-14:15	<b>Pisevska Cholakova N.</b> Danger zones of the facial region when applying hyaluronic fillers
14:20-14:50	<b>Discussion</b>

ZOOM online meeting	Poster session
Saturday 03.10.2020	12:00-16:00
	<b>Alku-Latifi O.</b> Treatment of gingival hyperplasia in a patient with periodontal and systemic diseases
	<b>Mindova S.</b> Application of electrocautery in the treatment of gingival enlargement
	<b>Piperevaliev Tome</b> Treating of fully edentulous lower jaw by using of implant supported denture retained with milled bar: clinical case report
	<b>Evrosimovska B.</b> Treatment of bone osteonecrosis with Platelet rich fibrin
	<b>Spirov V.</b> Use of nonresorbable PTFE membranes in preservation of the alveolar ridge
	<b>Dragovikj V.</b> Osseodensification: A Review of Published Literature
	<b>Tasevski D.</b> Immediate computer guided implant surgery in the esthetic zone
	<b>Velkovska E.</b> One-Phase Versus Two-Phase Dental Implant Treatment
	<b>Petrovski M.</b> Chronic periodontitis as risk indicator for peri-implantitis
	<b>Rogoleva S.</b> Sophisticated graft materials and barrier membranes for oral surgery and dental implantology applications
	<b>Terzievska A.</b> Perioperative prescription of antibiotics vs. the phenomenon of antimicrobial resistance
	<b>Ismaili B.</b> Application of lasers in mucosal surgery
	<b>Dimitrovski. V.</b> Orthodontic and surgical management of mandibular impacted second molar
	<b>Josifov D.</b> Oral surgery management in patients with renal transplantation
	<b>Bizevski D.</b> Haemangioma capilare - a case study
	<b>Pop-Janeva I.</b> Oral-surgical treatment of periodontal pocket with guided bone and soft tissue regeneration
	<b>Papakoca K.</b> Influence of platelet- rich plasma (PRP) after surgical removal of impacted lower third molars
	<b>Kacarska M.</b> Surgical management of palatine torus
	<b>Lamevski M.</b> Articaine - anesthetic of choice in oral surgery
	<b>Zivkovic N.</b> Surgical revision of radicular cyst in mandible with combination of substitution and regenerative therapy (Case report)
	<b>Serafimovski P.</b> Clinical implication of large radicular cyst masquerading the entire maxillary sinus: case report and follow-up
	<b>Baara- Simonovska T.</b> Preprosthetic surgical treatment of torus mandibulae
	<b>Fidoski Jasmin</b> The Application Of PRP In A Temporomandibular Joint Pain
	<b>Kasapi Fisnik</b> Fully autologous material for preparation of membranes and grafts in the oral surgery.