E A C D

Annual Scientific Meeting

2 0 1 6

„Beyond Orofacial Pain“

Treatment Failure and Management

Jumeirah Hotel, Frankfurt am Main, Germany

September 22nd-24th, 2016

www.eacd-2016.net
Exciting events in the heart of the city
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A word from the president

Dear members of the EACD and attendees to this meeting,

On behalf of the Executive Board of the EACD and the 2016 EACD Meeting Scientific Committee I would like to welcome you to the 2016 Annual Meeting of the Academy.

For this opportunity we considered that the discussion about “Beyond Orofacial Pain – Treatment Failure and Management” could be an interesting topic together with some other presentations about Orofacial Pain and Sleep Disorders. Dr. Jens Türp and Dr. Nikolaos Giannakopoulos have worked on a stimulating combination of lectures and workshops that will facilitate learning, discussion and practical clinical applications.

Besides, important issues regarding the progression of our Academy will also be discussed in the Academy General Meeting and some important decisions will be voted on.

Frankfurt is a modern, beautiful and welcoming city that will offer us a diversity of cultural and leisure possibilities to enjoy the social part of this gathering after a day of scientific debate.

Warmest regards

José L. de la Hoz, 2016 President EACD
Learning Objectives of this Meeting

1. What is a heuristic? Why can simple decision rules be more robust under uncertainty than complex rules?

2. What is important for simple decision rules to work well?

3. What is a failure? Why do failures occur? How can failures be managed?

4. What is scientific evidence, and why does the published medical/dental literature not reflect clinical and scientific reality?

5. What is the role of the orofacial pain (OFP) care givers and general dentists in the diagnosis and management of OFP patients?

6. What are the main reasons for therapeutic failure in chronic pain, with special emphasis to orofacial pain?

7. What are the most recent advances in the use of botulinum toxin in myofascial pain, neuropathic pain, and headaches?

8. What are the methods used for producing and infiltrating Platelet-Derived Growth Factor, and what says the available scientific literature about its application in the therapy of TMJ osteoarthritis?

9. What is the risk and complication management of botulinum use in clinical practice?

For more information see abstract section
Scientific Program

Friday, September 23rd and Saturday, September 24th 2016
Thursday, September 22\textsuperscript{nd}, 2016

13:00-14:30 Board Meeting  
(Jumeirah Conference Center, Salon III)

15:00-19:00 Council Meeting  
(Jumeirah Conference Center, Salon III)

19:30-22:30 Lecturer’s Dinner

16:00-19:00 Early Bird Registration  
(Booth at main entrance to the hotel)

Friday, September 23\textsuperscript{rd}, 2016

08:30-09:45 Late Bird Registration  
(Booth at main entrance to the hotel)
Friday, September 23rd, 2016

09:00-09:10

Welcome Remarks

José de La Hoz Aizpúrua (EACD President)

Nikolaos Nikitas Giannakopoulos, Jens Christoph Türp
(Program Chairs)

09:10-10:00

Oral Presentation of Candidate Members (Session One)

Antonio Romero-Garcia, Spain

Occlusal dysesthesia

Dr. Konstantin Muzalev, Russia

Effects of experimental temporomandibular disorder pain on sleep bruxism

10:00-10:30

Coffee break
**Friday morning session,**
hosted by Dr. Nikolaos Nikitas Giannakopoulos, Germany

**10:30-11:15**

Antonio Romero-Garcia (EACD):

*Genetics, pharmacogenomics, imaging, sleep, and chronic pain: Where does our specialty go?*

**11:15-12:00**

Thorsten Pachur (invited speaker; Max Planck Institute for Human Development, Germany):

*Making good decisions in a complex world*

**12:00-12:15**

Panel Discussion

**12:15-13:45**

Lunch on your own

**Friday afternoon session,**
hosted by Dr. Marie-Christine Ketelaer, Belgium

**13:45 – 14:30**

Jens C. Türp (EACD):
Failures in chronic pain therapy across the disciplines: a review of the pertinent literature

14:30-15:15
José Johann Chidiac (EACD):

The “failure” problem and its management in temporomandibular disorders

15:15-15:45
Coffee break

15:45-16:30
Hans J. Schindler (invited speaker; DGFDT, DSG, Germany):

Treating therapeutic failures in a specialized private practice: How many “real” failures do really exist?

16:30-17:15
Eduardo Vásquez Delgado (EACD):

Is Platelet-Derived Growth Factors a therapeutic option for refractory TMJ osteoarthritis?

17:15 -17:45
Panel Discussion

18:00-20:30
President’s Reception

All beverages sponsored by REGEDENT
Saturday, September 24th, 2016

Saturday morning session,
hosted by Dr. Matthias Lange, Germany

09:00-10:00

Oral Presentation of Candidate Members
(Session two)

Bruno Imhoff, Germany

Study of TMD patients in general dentistry offices (STING) –preliminary results

Hartwig, Messinger, Germany

Articulator modification under consideration of palaeontological and comparative anatomical and biological aspects

10:00-10:30

Coffee break

10:30-11:15

Gerd Antes (invited speaker, Cochrane Germany)

Medical knowledge: generation, processing, and utilization
11:15 -12:00

José de la Hoz Aizpurúa (EACD):

Orofacial Dyskinesias

12:00-12:15

Panel Discussion

12:15-13:45

Lunch included and on behalf of the EACD

Saturday afternoon session,
hosted by Dr. Michail Koutris, Greece

13:45 – 14:30

Nenad Lukic (EACD):

Treatment failure after initial TMD therapy

14:30-15:15

Giovanni Mauro (EACD):

Botulinum toxin and orofacial pain: facts or fiction? 
Review of the literature
15:15-15:45

Coffee break and good-bye to Non-EACD members

15:45-18:00

Annual General Assembly

20:00-00:30

Meeting Dinner and Show (Tiger Palace)
## List of lecturers (scientific meeting) in alphabetical order

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## List of lecturers (workshops)

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List of attendees per August 31st 2016

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Abstracts and Learning Objectives

(lecturers in alphabetical order)
Decisions in health care should be based on knowledge about benefit and harm which has been generated through clinical trials. To allow the usage of this knowledge in practice requires to prepare and provide this knowledge in summarizing and easily accessible information sources. The concept of Evidence-based Medicine and the development of evidence and knowledge synthesis have generated a sound basis. There are still barriers for a successful knowledge transfer. In particular in the non-English language countries the barrier to reach the English language knowledge pool has hardly been reduced so far.
Current Position: Professor, DDS, Department of the Lebanese University, Beirut, Lebanon

Title: The “failure” problem and its management in temporomandibular disorders

Abstract: Failure occurs when the provided treatment gives no or different results from the expected ones. The complexity of TMDs and the different treatment modalities related to different school of thoughts and dogmas encourage such failures. This presentation will give a personal approach to the management of patients who have relapses or want to be treated after several attempts by one or many practitioners.

Learning Objectives:
- What is a failure?
- Why failures occur?
- How to manage failures.
Orofacial Dyskinesias (OFD) are a group of neurological syndromes characterized by an excess, deficit or aberration of movement of orofacial structures unrelated to muscle weakness or spasticity. The Orofacial Pain dentist plays a primary role in the diagnosis and management of OFD, not only because these disorders affect the orofacial and masticatory structures, but also because they may compromise the quality of oral health, and promote breakdown of dental structures.

In this presentation, the speaker will review the basic functional anatomy of the neural structures involved in movement execution and coordination and will update the concepts regarding the confusing taxonomic classification, pathophysiology, clinical presentation, diagnosis and therapeutic options for these clinical entities including dental restorative considerations.

**Learning Objectives**

Explain the role of the OFP and the general dentist in the diagnosis and management of patients affected with OFD.
Nenad Lukic  
Nenad.Lukic@zzm.uzh.ch

Current Position  
Dr Med, Dent.  
Senior Physician, Clinic of Masticatory Disorders, Removable Prosthodontics, Geriatric and Special Care Dentistry, Center of Dental Medicine, University of Zurich, Switzerland

Title  
Treatment failure

Abstract  
The proper diagnosis of patients suffering from craniomandibular disorders is based on a profound history addressing somatic symptoms and psychosocial disease-modulating factors. Some cases may experience persistent burdening symptoms after initial therapy (treatment failures). Based on videotaped patients, this lecture will analyse clinical cases that failed initial treatment and discuss aspects how a more favourable outcomes might have been achieved in a timely manner.

Learning Objectives  
Learn about a diagnostic strategy for reaching prompt and proper diagnosis resulting in adequate patient management.
Title
Botulinum Toxin and Orofacial Pain: facts or fiction?
Review of the literature

Abstract
Despite several treatment modalities were suggested for orofacial pain, none has emerged as clearly superior to others. Several reviews have claimed that botulinum toxin can be an effective aid in the treatment of some orofacial pain situations while other reviews are skeptical. The present lecture will present the up to date literature on this issue and will draw some guidelines for the clinician.

Learning Objectives
Learn about the concepts regarding the action of botulinum toxins.
Learn about the most recent advances in their use in various orofacial pain fields: myofacial pain, neuropathic pain, headaches
Learn about risk and complication management of botulinum in the clinical practice
Learn about the clinical applicability and limits of botulinum toxins in a multidisciplinary approach to OFP management
Understand the role of the dentist and the learning curve needed for the applicability of such technique in a clinical setting.
Thorsten Pachur  

pachur@mpib-berlin.mpg.de

**Current Position**  
Dr. phil., Dr. psych., MSc  
Senior Researcher, Center for Adaptive Rationality, Max Planck Institute for Human Development, Berlin, Germany

**Title**  
Making good decisions in a complex world

**Abstract**  
The world often presents us with an abundance of information; in addition, much of the information is uncertain. How to make good decisions in light of these challenges? I present evidence from various decision-making domains, such as sports, finance, and medicine, that an effective tool to deal with a complex and uncertain world is - perhaps surprisingly - to rely on simple rules that ignore information. Whereas simple decision rules have traditionally been viewed as obstacle to good decision making I will explain why simplicity can be a good guide to battle uncertainty and describe approaches to construct simple decision tools.

**Learning Objectives**  
I will address the following questions. What is a heuristic? Why can simple decision rules be more robust under uncertainty than complex rules? What is important for simple decision rules to work well?
Current Position  
Practice dedicated exclusively to TMD, Orofacial Pain and Dental Sleep Medicine Valencia, Spain

Title  
Epigenetics, pharmacogenomics, neuroimaging, sleep and chronic pain vulnerability: Where does the future of our specialty lie?

Abstract  
In the last decade numerous advances in the knowledge of chronic pain conditions regarding epidemiology, mechanisms, and future treatment strategies have been made.

OPPERA study has begun to show us that there are many known risk factors for the development of chronic pain conditions, although the biological key issues that link these factors to abnormal processing of painful signals are only just beginning to be explored. Although research in this area is still in its infancy, a better understanding of how pain vulnerability emerges has the potential to help identify individuals at risk and may open up new therapeutic avenues. Furthermore, ineffectiveness of current therapeutic strategies seems to be at least partly due to an incomplete understanding of the mechanisms involved in chronic pain conditions. The development and maintenance of chronic pain involve long-term changes in multiple areas of the central nervous system (CNS), which are often characterized by adaptations at the cellular and molecular levels. Recent findings on epigenetic changes in the spinal cord and brain during chronic pain states may guide fundamental advances in new treatments. In our presentation we will discuss the
potential mechanisms that have been proposed to underlie vulnerability and resilience toward developing chronic pain and will discuss recent studies that highlight the involvement of epigenetic mechanisms in the CNS in orofacial chronic pain conditions.

The technical advancements made in both functional and structural MRI have been used to delineate the cerebral signature of pain specifically, the brain responses to noxious stimuli and specific pain-related forebrain responses, as well as pain modulatory effects. The information derived from neuroimaging studies, specially the recognition of supraspinal pain mechanisms suggest that chronic (orofacial) pain states may be related to a dysfunctional brain network and may involve a compromised descending inhibitory control system. This can be of tremendous interest to the field of chronic orofacial pain conditions.

Individual pain variability and differences in the efficacy of analgesic drugs are genetically controlled. The application of pharmacogenomics of the field of pain management tries to characterize how genetic variations can contribute to an individual’s sensitivity and response to a variety of drugs important to pain management practice. Pharmacogenomics of pain management represents the most familiar area of practical pain genomics, showing how genomic variations, can dramatically change the response to analgesic drugs through either change in their metabolism or receptor targets.

Finally, in the last decade, in the OFP field, special attention has been paid to the issue of sleep. These two vital functions sleep and pain interact in such a complex way that ultimately impacts the biological and behavioral capacity of the individual. Different studies have demonstrated the bidirectionality of the sleep-pain relation. Given this bi-directionality, treatment must focus on alleviation of both the pain and sleep disturbances. From the review of the above, a main question emerges... Are really these issues having a great impact in the daily
treatment of our patients? The final discussion of our presentation will be addressed to give a practical answer to this question.

**Learning Objectives**

To present the latest advances and future trends in the research of chronic orofacial pain disorders.
Current Position
Professor, DDS, Dr Med Dent.
Senior lecturer, Department of Prosthodontics, Dental School, University of Heidelberg, Germany and Research Group Biomechanics, Institute for Mechanics, University of Karlsruhe, Germany.

Title
Treating therapeutic failures in a specialized private practice. How many “real” failures do really exist?

Abstract
Therapeutic failures for TMD patients are often a reason for mixed emotions among general dentists. Systematic evaluation of the literature regarding the response to the management of different TMD patient subgroups shows considerable selection bias: the vast majority of the studies have been performed in 3rd grade patient care settings; moreover, almost no studies have differentiated the patient populations for their chronic pain status. Hence, it can be assumed that a considerable proportion of the patients in the aforementioned settings suffer from dysfunctional chronic facial pain. This, however, does not reflect the reality in the everyday practice, thus giving a wrong impression about how many therapeutic failures can be expected.

The aim of this study was the systematic evaluation of the registry of the last three years of a specialized private practice.
A total of 230 consecutive TMD patients were treated in this time frame. The majority of the individuals (84%) had a myofascial pain diagnosis according to the RDC/TMD. The Graded Chronic Pain Status of the patients
showed that 23% had dysfunctional chronic pain (grade III or IV). Seventy percent of the patients responded positively to different management measures in various degrees.

The results of the re-treatment are rather encouraging: most “resistant” cases are indeed manageable by following standardized diagnostic procedures and employing a variety of therapeutic methods. Management of TMDs requires often longer time periods and a combination of evidence-based therapeutic options. Prerequisite for a successful management is a proper diagnosis, especially for early recognition of patients with chronic/dysfunctional pain.

**Learning Objectives**

Which validated diagnostic tools are applicable for the private practice?
Which management modalities are available in the private practice?
Which time frame is considered appropriate for a TMD treatment in the private practice?
Jens Christoph Türp  
jens.tuerp@unibas.ch

**Current Position**  
Professor, DDS, Dr Med Dent, MSc, M.A.  
Chair at interim, Department of Reconstructive Dentistry and Temporomandibular Disorders, University Center for Dental Medicine, University of Basel, Switzerland.

**Title**  
Failures in chronic pain therapy across the disciplines: a review of the pertinent literature

**Abstract**  
Treatment failure has been defined as “a measure of the quality of health care by assessment of unsuccessful results of management and procedures”. A PubMed search with the search string ("Treatment Failure"[Mesh] OR "treatment failure"[All Fields]) carried out in September 2016 yielded more than 42100 references; however, only around 680 (1.6%) of them (among them 95 reviews) were published in dental journals. A search for articles about treatment failure in chronic pain resulted in 90 hits. When additional databases, such as LIVIVO, are considered, the number of relevant hits increases. Nonetheless, the low yield indicates selective suppression of information in medical/dental journals on that topic. The reasons for this reporting bias will be elucidated.

**Learning Objectives**  
At the end of the presentation, the audience should know the main reasons for  
- the low number of reports about therapeutic failure in chronic pain;  
- therapeutic failure in chronic pain, with special emphasis to orofacial pain.
**Title**

Is Platelet-Derived Growth Factors a Treatment Option for Refractory TMJ Osteoarthritis?

**Abstract**

Osteoarthritis (OA) is a prevalent and disabling disease affecting an increasingly larger percentage of world population. Many treatment options have been made available during the last decades to address problems regarding osteoarthritic cartilage damage, each with its own advantages and disadvantages, being the use of the Platelet-derived growth factor (PDGF) (autologous growth factor) a rapidly growing treatment option in orthopedics and sports medicine due to its role in regulating physiological remodeling and cartilage healing by stimulating cellular growth, proliferation, healing, and cellular differentiation. Nevertheless its use as a primary treatment option in musculoskeletal disorders including temporomandibular joint (TMJ) osteoarthritic conditions remains controversial due to the limited amount of high quality clinical trials that support its use when compared to other treatment options. It is the aim of this lecture to provide back-ground on the underlying basic science, the methods used for producing and infiltrating PDGF, and an overview of the available scientific literature on its application in the treatment of TMJ OA.

**Learning Objectives**

To provide back-ground on the underlying basic science, the methods used for producing and infiltrating PDGF, and an overview of the available scientific literature on its...
application in the treatment of TMJ osteoarthritis.

Notes
Abstracts of Candidate Member’s oral presentations

(lecturers in alphabetical order)
Dr. Bruno Imhoff  
brunoimhoff@t-online.de

**Current Position**  
Dr med dent,  
Private practice, Cologne, Germany

**Title**  
Study of TMD patients in general dentistry offices (STING) –preliminary results

**Introduction**  
There are just few studies reporting clinical results from private practitioners in the field of TMD. The Dusseldorf study group for craniomandibular function developed a systematic database to collect information about complaints, diagnosis and treatment including the outcome of therapy of TMD patients.  
Aim of our study is to identify risk factors for the management of TMDs.

**Materials and methods**  
Data was retrospectively collected by analyzing 1041 patient records of all TMD patients (aged 3y to 90y / m=249, f=783). 863 underwent systematic therapy, recall data was available for 815 patients after 3 months and 681 patients after 12 months.

**Statistical analysis**  
SPSS 23 was used to evaluate which parameters are relevant to forecast therapeutic success. 454 TMD patients were selected randomized to search for risk factors, 227 TMD patients were selected to proof our findings.

**Results**
Clicking of the joints, gender, duration of pain and age did not have significant influence on therapeutic outcome. Axis-II-rating, number of complaints and multisite pain showed to be negative predictors for therapeutic success. Conclusions: The evaluated risk factors should be checked before treatment planning.
Current Position
Private Practice, Dinslaken, Germany

Title
Articulator modification under consideration of palaeontological and comparative anatomical and biological aspects

Introduction
During opening and closing movements the mandible of man and mammals rotates about a transverse horizontal axis which is located somewhere between the condyles and the jaw angle. Nonetheless dental articulators are constructed as if the center of rotation was located in the condyles.

Aim of the presentation
To present ideas for modifying the construction of dental articulators. The suggested changes may offer a fresh look at and better understanding of mandibular movements.

Materials and methods
Following the study of pertinent palaeontological, anthropological, biological and comparative anatomical literature, supplemented by freehand imitation of the restraints caused by ligaments during jaw opening on a human skull the “ramus of the mandible/articulator” was dissected at the level of the mandibular foramen and jointed by a hinge joint. Subsequently, the condylar housing was modified so that it could be blocked to enable rotational movements around the hinge joint. For sliding movements the lower rotational joint can be locked while the upper joint can be set free.
Results
Like *in vivo*, the modified articulator possesses an upper joint space for eccentric sliding and a lower joint space for rotational movements.

Conclusions
The use of the modified “physiological” articulator may promote a better functional and “haptic” understanding of mandibular movements in both teaching and daily dental workflow. It may also be helpful to direct the focus off the joints towards the movement of the mandible itself. By doing so it might also contribute to an improvement of computerized virtual imitation and display of mandibular function.
Title

Effects of experimental temporomandibular disorder pain on sleep bruxism

K. Muzalev, C.M.Visscher, F. Lobbezoo

Background

Sleep bruxism (SB) is commonly considered as an etiological factor for temporomandibular disorder (TMD) pain. Previous clinical studies on the association between TMD pain and SB yielded contradictory results: some showed a positive association between both conditions, while others reported either no association or even a negative one. These diverging results can, at least in part, be explained by the fact that those previous studies dealt with SB patients with concomitant TMD pain. Since clinical TMD pain has a fluctuating nature, the presence of pain when recording the SB activity is not guaranteed. Therefore, TMD-like pain was experimentally provoked in the present study as to ascertain the presence of pain during the SB assessment. The aim of the study was to assess the effects of TMD-like pain on SB.

Methods

Nine male volunteers with clinically diagnosed SB fulfilled all inclusion and exclusion criteria and completed the entire study. They underwent the following procedures:
(1) ambulatory polysomnography (PSG) recordings for two consecutive nights to determine the baseline SB activity: (2) provocation of delayed onset muscle soreness (DOMS) using a “custom-made” device that enables eccentric contractions of the jaw-closing muscles; and (3) another ambulatory PSG recording 36 hours after the DOMS provocation. Every evening and morning during the study period, pain intensity was scored by the participants on a visual analog scale (VAS).

**Results**
All nine participants reported mild to moderate pain in their jaw muscles 36 hours after the DOMS provocation on the VAS, ranging from 1 to 8 with median value of 1. Using Friedman test, no difference was found in SB activity between the first (median 9.2 (25% percentile 7.8, 75% percentile 12.7) SB episodes per hour) and second PSG recordings (median 9.7 (25% percentile 7.3, 75% percentile 13.5) SB episodes per hour) (p = 0.74). However, there was a significant difference in SB activity between first PSG recording and third PSG (median 7.0 (25% percentile 5.7, 75% percentile 10.2) SB episodes per hour) recording as well as between the second and the third PSG recording (p = 0.003), whereby the third PSG recording always yielded the lowest SB scores.

**Conclusions**
These findings indicate that experimental temporomandibular disorder pain is associated with a reduction in sleep bruxism activity.
Patients having persistent hyperawareness of their dental occlusion in absence of objective findings that justify their symptoms have been described in the dental literature as “occlusal dysesthesia”, “phantom bite syndrome” or “occlusal hypervigilance”.

Although the symptoms are located in the teeth or surrounding alveolar ridge, it is believed that a central nervous system– (CNS-) mediated mechanism is responsible for their presence similar to what happens in patients with phantom limb pain. This implies thus, a reorganization or malfunction of the central nervous system pain perception pathways.

When minor or clinically non-verifiable occlusal discrepancies are the patient’s primary symptoms and especially in those cases when the patient has a previous history of several unsuccessful dental treatment or occlusal adjustments, clinicians should always consider the potential role of a psychological problem with the presence of comorbid psychiatric conditions and avoid going on with occlusal treatments.
We present a series of cases with occlusal dysesthesia where the clinical history can lead us to think in more a central sensitization phenomena or the presence of a psychiatric comorbid underlying condition, as the primary cause of the symptoms.

Based on that, we give some recommendations based on clinical experience reinforcing the idea of the early detection of this syndrome based on some “red flags” that will avoid the perpetuation of the problem and unnecessary dental or occlusal interventions in the future.
Workshops

(lecturers in alphabetical order)
Nikolaos Nikitas Giannakopoulos
Nikolaos-Nikitas.Giannakopoulos@med.uni-heidelberg.de

Current position
Priv.-Doz.; Dr. med. dent.; M.Sc.
Current position: Associate Professor at the Department of Prosthodontics, University of Heidelberg

Workshop 1  Friday 23rd 14:00h, 15:00h, 16:00h
(approx. 40 min.)

Title
Diagnosis and management of sleep bruxism with the Grindcare device

Abstract
Bruxism is considered to be a “repetitive jaw-muscle activity that is characterized by clenching or grinding of the teeth and / or by bracing or thrusting of the mandible” (Lobbezoo et al. 2013). Two distinct circadian manifestations are proposed: sleep bruxism and awake bruxism with unknown clinical relevance. The diagnosis of bruxism and furthermore its management when necessary, pose still a big challenge.

Learning Objectives
To give an overview of basic bruxism diagnostic concepts with emphasis on the Grindcare device and its possible applications. Moreover, to get acquainted with the practical use of the new Grindcare device and the meaning of the data the device produces.

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Andreas Kullmann  
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**Current position**  
Dr.med.dent, MSD, MSc.  
Private Practice, Frankfurt, Germany

**Workshop 2**  
Saturday 24th 10:00h, 11:00h, 12:00h  
(approx. 40 min.)

**Title**  
The PRGF Endoret-System in the medical and dental arena

**Abstract**  
PRGF, Platelet rich growth factors is a development in modern biotechnology which aims to create a positive impact on hemostasis in the first stage of wound healing. It is generated by centrifuged autogenous blood, where – opposed to platelet-rich-plasma (PRP) four fractions are extracted. Besides its hemostatic properties, PRGF is also germicidal on particular bacteria. Application fields of PRGF are orthopaedics, ophthalmology, dermatology, dental and maxillo-facial surgery.

**Learning Objectives**  
To get familiar with the concept of PRGF enhanced wound-healing and its applications in dentistry and medicine.

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![Bti Logo](image-url)
Giovanni Mauro
giovannimauro@mac.com

Current position
MD, DMD,
Visiting Professor University of Parma, Italy
Private Practice, Mantova, Italy

Workshop 3 Saturday 24th 10:00h, 11:00h, 12:00h
(approx. 40 min.)

Title
Botox Injection Technique in OFP

Abstract
The present workshop is designed to offer a general approach to the clinical use of botulinum toxin in OFP.

Learning Objectives
Learn about the most recent advances in the use of botulinum toxin in various orofacial pain fields.

Learn about risk and complication management of botulinum toxin in the clinical practice.

Learn about the most common techniques in botulinum toxin injections.
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