

Barcelona**2015**

September, 16-19

Endodontics: Where biology and technology merge

PROGRAMME

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Barcelona2015
September, 16-19

WELCOME



Dear Colleagues,

On behalf of the Spanish Society of Endodontology, and myself, I am very proud and delighted to welcome you to the 17th Biennial Congress of the European Society of Endodontology in Barcelona, in September 2015.

The Scientific Programme will cover science and research, technological and technique updates, clinical matters as well as educational innovations.

We will also have multidisciplinary and sessions on controversial topics.

Regarding the social programme, we have prepared a meeting that will not only be scientifically and professionally enriching, but will also promote a strengthening of the bonds that already link us together.

The Spanish Society of Endodontology and the European Society of Endodontology gladly welcomes you to Barcelona.

ENDODONTICS: WHERE BIOLOGY AND TECHNOLOGY MERGE

The 17th ESE Congress President
Miguel Roig Cayón

A handwritten signature in black ink, featuring a large, stylized 'M' and 'R' that are interconnected, with a horizontal line extending to the right.



INDEX

◆ COMMITTEES	6
◆ INFORMATION	7
◆ SOCIAL PROGRAMME	17
◆ MEETINGS & FUNCTIONS (Invitation only)	21
◆ PRE – CONGRESS COURSES	23
◆ PROGRAMME	37
- THURSDAY, SEPTEMBER 17th HALL 1 (Room 115 – 117)	39
- THURSDAY, SEPTEMBER 17th HALL 2 (Room 111 – 112)	44
- THURSDAY, SEPTEMBER 17th HALL 3 (Room 113 – 114)	49
- THURSDAY, SEPTEMBER 17th HALL 4 (Room 118)	52
- THURSDAY, SEPTEMBER 17th HALL 5 (Room - 119)	53
- FRIDAY, SEPTEMBER 18th HALL 1 (Room 115 – 117)	55
- FRIDAY, SEPTEMBER 18th HALL 2 (Room 111 -112)	61
- FRIDAY, SEPTEMBER 18th HALL 3 (Room 113 – 114)	66
- FRIDAY, SEPTEMBER 18th HALL 4 (Room 118)	69
- FRIDAY, SEPTEMBER 18th HALL 5 (Room 119)	71
- SATURDAY, SEPTEMBER 19th HALL 1 (Room 115 – 117)	73
- SATURDAY, SEPTEMBER 19th HALL 2 (Room 111 – 112)	77
- SATURDAY, SEPTEMBER 19th HALL 4 (Room 118)	81
- SATURDAY, SEPTEMBER 19th HALL 5 (Room 119)	82
◆ ESE 2015 GREEN MEETING	84
◆ OVERVIEW	85
◆ ACKNOWLEDGEMENTS	102
◆ EXHIBITION AREA	105
◆ CONVENTION CENTER	109



COMMITTEES

Organising Committees

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Congress president: Miguel Roig Cayón

Organising Committee:

Secretary: Rufino Bueno Martínez

Other Members: Rafael Cisneros Cabello, José Maria Malfaz, Eugenio Grano de Oro Cordero, Miguel Miñana Gómez, Sergio Morelló Castro, Fernando Durán Sindreu-Terol, Juan Basilio Monné, Francesc Abella Sans, Miguel Teixidó Michel, Joan M^a de Ribot Porta, Montserrat Mercadé Bellido, António Ginjeira

Scientific committee: Leopoldo Forner, Laura Ceballos, Juan José Segura Egea, Francesc Abella, Montserrat Mercadé, Fernando Duran-Sindreu, Purificación Varela.

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Chair of the Research Committee: Prof. Leo Tjäderhane

Administrator: Ms Sue Bryant

Contacts

Executive Secretariat

Int Meetings & Events

Office: BCN 93.186.84.81 MAD 91.452.81.00

www.int-meetings.com

info@int-meetings.com

The INT. Meetings Team (24/7 Telephone)

Jaume Pros + 34 618 744 628

Oscar Salcedo + 34 696 241 680

Emmanuel Torres +34 671 348 977



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INFORMATION



LOCAL INFORMATION

Barcelona

Barcelona has become one of the main tourist destinations in Spain. It has something for visitors of all types - history, a dynamic yet charming atmosphere as well as the nearby beaches in La Costa Brava. The variety of artistic treasures, the Romanesque churches and the great names in modern art and architecture, Dali, Gaudi, Miro, Picasso ...

Barcelona, situated between the sea and the mountains, has found a formidable balance: a foot in traditional and in the avant-garde. Barcelona has the reputation of being the most cosmopolitan, modern and avant-garde city in Spain and it was renewed for the 1992 Olympic Games.



Languages Spoken

The two languages spoken in Barcelona are Spanish and Catalan. Barcelona is the capital of Catalunya and therefore Catalan is widely spoken by the people of Barcelona. However, both Spanish and Catalan are spoken interchangeably.

In the tourist areas you will find people who speak English as well as Spanish; however, off the beaten track most people will only speak Spanish or Catalan.

Barcelona is a very cosmopolitan European city with millions of tourist visitors each year so you should not have any real problems communicating.

International Time Zone: The time in Spain is GMT + 1 hour.



Currency

As member of the European Monetary System, the Spanish monetary unit is Euro (€). Banks are open from Monday to Friday, 8:30 to 14:00.





Tipping

Tipping is optional, but normally 10% is customary in taxis, restaurants and bars.



Money exchange

There are many major banks in Barcelona, and the exchange rates differ slightly between each one. It's best to find a bank or change house located further away from the major monuments or places of interest.

Automatic cash machines are plentiful, and you will be charged a commission at the time of the transaction.



Barcelona Metro

The metro is definitely the fastest way of getting around Barcelona. In summer it is air conditioned, in winter it is heated.

There are two subway systems in Barcelona, one is the Barcelona metro service and the other system is the FGC subway trains.

Metro timetable:

Monday to Thursday, Sundays and holidays: 5am-12am

Fridays and day prior to public holidays: 5am-2am

Saturdays: non-stop service



Posting letters

The main post office (Correos) is located at the end of Via Laietana. Impossible to miss, it is a stunning, classical building on "Plaça Antonio López" that looks towards the iconic Cap de Barcelona: a large surrealist sculpture created by American Pop artist Roy Lichtenstein for the 1992 Summer Olympics in Barcelona.

Services include: information services, stamps, for sending and receive letters, packages, telegrams, etc. If you want to send a simple letter or post card you can purchase stamps in the Tobacco shops about town, and then pop it in one of the yellow post boxes.



Medical Care

Clinics and hospitals provide round the clock emergency service. The national emergency phone number is 112.



Electricity Supply

Electricity supply is 220 volts throughout Spain with 2 pin wall sockets. For any European countries that utilise 240 volts e.g. UK and Ireland most electrical equipment will function adequately.

If you intend to use the UK electrical plugs then you will need an electricity plug adapter that will convert the standard 3 pin socket into a two pin socket. In the US where the electricity supply is 110 volts a transformer would be required to step down the voltage to 110 volts. Damage to the electrical appliance can occur if you attempt to use a 110 volt rated electrical appliance with a 220 volt supply.



Shop opening times

Traditionally shops are open from 9:00 or 10:00-14:00, and then reopen from 16:30-20:30 or 21:30. Many shops in the centre of town and shopping centres are open from 8:30 or 9:00-20:30 or 21:30.

Most shops are open Monday to Saturday, however in July and August many close on Saturday afternoon. Sunday is notoriously quiet, as the town shuts shop religiously, although this is a common evening for dining out.



Surf the Internet

Barcelona is a wired city, with public access WiFi (look for a blue “W” sign) throughout the city; such as in parks, beaches, and plazas. Many hostels and hotels, and chain restaurants have free Internet access





Water Supply

Barcelona drinking water is very unpalatable and it is highly recommended to drink bottled water whilst you are here. Although you can drink tap water safely it is much preferred to have bottled water. Bottled mineral water can be purchased very cheaply from local supermarkets.



Safety

Barcelona is a relatively safe city, most street crime in Barcelona consists of pick pocketing and scams. Barcelona scam stories should just serve to make you beware, as Barcelona is fairly similar to other major European cities in terms of its levels of crime. Like in any other major city you should take normal precautions such as never leaving valuables unattended, not walking home alone in certain areas at night, and being aware of your belongings.

To avoid being pick pocketed you should always be aware of your surroundings and keep an eye out for potential scams that could trick you into losing your possessions. There are certain situations and locations where you have to be particularly careful; La Rambla is always busy with tourists and there are a lot of distractions. Also, in metro stations where there are lots of people, it is normal for people to brush by close to you and you are concentrating on your destination rather than your possessions. But to avoid these situations as much as possible you can just take a few simple precautions and you will be susceptible to a lot less risk:

Dress appropriately; Barcelona is a city like any other, even though it has a beach the Spanish do not walk around in the street in swim wear so in order not to stand out from the crowd you shouldn't either.

By having a map out you make it very obvious to pickpockets that you don't know your way around very well, you also have your attention focused on something other than your possessions and you make yourself an easy target. When you're walking around look like you know where you're going and if you get a bit lost and need to refer to a map then go into a bar or café and do it there, you'll be much safer.



Tax Free

If you live outside the European Union you can claim back VAT.

Ask for your tax free cheque when buying goods with a value greater than 90.16€.

Now you can claim back for the VAT at the heart of the city:

> Tourist information centre in Plaça de Catalunya Plaça de Catalunya, 17-S
Timetable: Daily, 8.30am to 8.30pm. Only Global Refund Tax Free cheques are accepted.

> Main office of Turisme de Barcelona Passatge de la Concepció, 7-9
Timetable: Monday to Saturday, 3pm to 8pm. Global Blue, Premier Tax Free and Travel Tax Free cheques are accepted.



Meals

Breakfast is normally served between 07.30 and 10.00, lunch from 13.00 to 15.00 and dinner from 21.00 to 22.00.



CONGRESS GENERAL INFORMATION

Congress Venue

The 17th Biennial Congress of the European Society of Endodontology is held at CCIB - El Centre de Convencions Internacional de Barcelona



Language

The Congress language is English. Spanish translation will be available in hall 1.



No Smoking

Smoking is strictly forbidden in the Congress Venue.



Mobile Phones

Delegates must keep their phone in the off or silent position in all the scientific presentation rooms.



Photography and Video Recording

Delegates must NOT take photographs or make video recordings of lectures.



Congress Secretariat Opening Hours

Wednesday, 16 September - **8.00 – 20.00**

Thursday, 17 September - **7.30 - 18.30**

Friday, 18 September - **8.00 - 18.30**

Saturday, 19 September - **8.00 - 17.00**



Cloakroom

Cloakroom is NOT available in the Conference Center.



Meals

Lunches and coffee break will be provided for all delegates within the registration fee (Exhibition Area). In the conference venue zone there are a number of restaurants within walking distance. Just in front of the congress venue, there is a large shopping mall with food outlets (Centro Comercial Diagonal Mar).

Insurance

The congress organizers cannot accept liability for personal injuries sustained or for loss or damage to property belonging to congress participants, either during or as a result of the congress. Please ensure you have valid personal insurance.

Preview Room: 124 (Floor P1)

A preview room is available for the Congress speakers in the P1 floor.

All speakers should visit the Preview Room at least 2 hours prior to their lecture to discuss with the technician how the slides will be managed. Speakers that have early morning presentations should visit the Preview Room the day before up to 18:30 or by 08:00 at the latest the same day.

Please note that the projection used will be 1280x960 (4:3) resolution please adapt your presentations accordingly.

Preview Room Opening Hours - Room: 124 (Floor P1)

Wednesday 16 September **8.00 – 18.30**

Thursday 17 September **8.00 – 18.30**

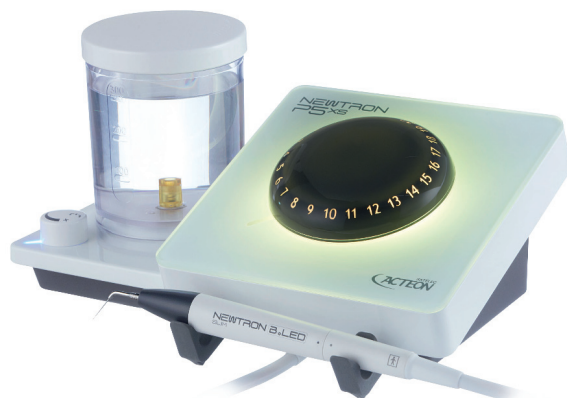
Friday 18 September **8.00 – 18.30**

Saturday 19 September **8.00 – 17.00**



NEWTRON

All state-of-the-art
Endodontics



Speakers Room: 122 (Floor P1)

A Speakers Room nearby the Preview Room will be available to all invited and sponsored speakers from September 16th throughout the congress. Access is limited and does not include those speaking on freely chosen subjects in Halls 4 and 5.

Speakers Room Opening Hours - Room: 122 (Floor P1)

Wednesday 16 September 8.00 – 18.30

Thursday 17 September 8.00 – 18.30

Friday 18 September 8.00 – 18.30

Saturday 19 September 8.00 – 17.00

Posters

Thursday 17 September

Exhibition Area: GE1 – GE79 (General Endodontic Posters)

Room 132 (Floor P1): R1 - R30 (Original Scientific Posters)

Room 131 (Floor P1): R31 – R59 (Original Scientific Posters)

Room 130 (Floor P1): R60 - R89 (Original Scientific Posters)

Room 129 (Floor P1): C1 – C29 (Clinical Posters)

Friday 18 September

Exhibition Area: GE80 – GE155 (General Endodontic Posters)

Room 132 (Floor P1): R90 – R117 (Original Scientific Posters)

Room 131 (Floor P1): R118 – R143 (Original Scientific Posters)

Room 130 (Floor P1): R144 - R171 (Original Scientific Posters)

Room 129 (Floor P1): C30 – C59 (Clinical Posters)

Saturday 19 September

Exhibition Area: GE156 – GE225 (General Endodontic Posters)

Room 132 (Floor P1): R172 – R194 (Original Scientific Posters)

Room 131 (Floor P1): R195 – R222 (Original Scientific Posters)

Room 130 (Floor P1): R223 - R251 (Original Scientific Posters)

Room 129 (Floor P1): C60 – C88 (Clinical Posters)

You must put your poster up on the correctly numbered poster board BEFORE 8:30 on your allocated presentation day. The posters should be left on display ALL DAY and removed at the end of the day between 18:00 and 18:45. If your poster is still on the poster board at 8:00 the next morning it will be destroyed. Posters MUST be portrait style. Size max 84 cm wide by 118 cm high (print size A0).

Where I can print my poster?

Interprint

Carrer de Balmes, 188, 08006 Barcelona

(+34) 932 18 14 37

carlos@interprintbcn.com

Registration entitles delegates to:

- > Entry to all Scientific Sessions and the Trade Exhibition;
 - > Admission to the Welcome Reception, coffee breaks and lunches;
 - > Certificate of attendance (pdf format on completion of on-line evaluation form);
 - > Congress bag and material
- Entrance to the congress, exhibition and social events is via tickets and badges. Badges will be supplied on registration and must be worn at all times.

Registration for accompanying persons:

Accompanying persons are not able to register for pre-congress courses and are not able to attend the scientific sessions.

Two special packages are available:

1. Only social events

Welcome Reception on Wednesday and ESE Reception on Thursday 100 Euro per person

2. Social events, coffee breaks and lunches and access to the exhibition

Welcome Reception on Wednesday and ESE Reception on Thursday plus coffee and lunches at the Congress 220 Euro per person.

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SOCIAL PROGRAMME

SOCIAL PROGRAMME

Welcome Reception

The Welcome reception will take place on Wednesday evening at 17:30 in the exhibition area of the congress centre. Entrance is subject to registration and display of the congress badge. The reception is free for participants. Accompanying persons can attend if they are registered and pay the appropriate fee.

ESE Reception

The ESE reception will take place on **Thursday 17th September 20.30 – 23.00** at the **National Art Museum of Catalonia – Sala Oval**. The reception is free for participants. Accompanying persons can attend if they are registered and pay the appropriate fee. Non-ESE registered postgraduate students and undergraduate students are not able to attend. The museum (Gothic & Romanic Areas) will be open for attendees **(from 20.30 to 22.30)**.

Please note:

> Participants will need to find their own way there and back as transport is not provided (please note the metro closes at midnight).

How to get there



Underground

L1 and L3 / Pl. Espanya

Buses

> 55 (this gets you closest, bus stop: Museu Nacional d'Art de Catalunya/Museu Etnològic)
> 150 (Pl. Espanya-Av. de l'Estadi/Piscines Picornell-Museu Nacional)
> 13 (Av. Francesc Ferrer i Guàrdia/Poble Espanyol)
> 37 (Pl. Espanya-Av. Paral·lel)
> As far as Pl. Espanya 9, 27, 50, 65, 79, 109, 165, D20, H12, V7.

Tourist bus

Tourist bus Museu Nacional d'Art de Catalunya and Barcelona City Tour (Museu Nacional d'Art de Catalunya)

FGC

FGC L8, R5, R6, R50, R60, S4, S8, S33 (Espanya station)

Funicular

Metro Paral·lel (integrated fare) – Funicular of Montjuïc

On foot

> Plaça Espanya – Avinguda Maria Cristina – escalator up to the museum
> Carrer Lleida - Teatre-Mercat de les Flors and the Teatre Grec – steps up to the museum
> Anella Olímpica – escalator up to the museum

Car

Free parking for cars and coaches next to the museum


Bicycle


Bicing (França Xica and plaça d'Espanya)


Gala Dinner

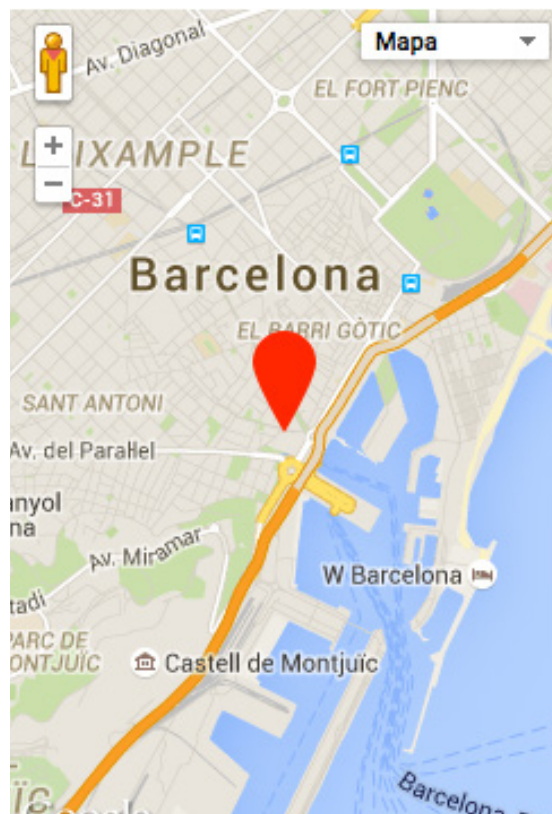
The Gala Dinner will take place on **Friday 18th September at 20.00 at the Maritime Museum – Marqués de Comillas**. Entrance is subject to registration and submission of a ticket. Participants can request tickets (**Until 17 September at 17.00h**) for the Gala Dinner at the Registration Desk, subject to availability, at the cost of **100 Euros**.

How to get there

 **L3-Drassanes**

 **14, 20, 21, 59, 64, 88, 91, 120, D20, H14**

 **Colom-Museu Marítim**



Children (under 18 years old)

Delegates must be aware that the social events at the ESE congress are likely to be very crowded and will involve the availability of alcoholic drinks. In addition, the Welcome Reception will be held in the Trade Exhibition area where a considerable amount of valuable equipment will be on display. Delegates with children should take account of these circumstances should they wish to bring children to the social events on the Wednesday and Thursday.

As a result the ESE has developed the following policy for children:

- > Children between 12 and 18 years may attend the Welcome Reception on Wednesday, ESE Reception on Thursday and Gala Dinner BUT are required to be registered as accompanying persons and pay the appropriate fee.
- > Children under the age of 12 years may attend the Welcome Reception on the Wednesday and the ESE Reception on Thursday on the understanding that the venues will be crowded.



MEETINGS & FUNCTIONS (Invitation only)

ESE General Assembly

Wednesday 16 Sep – Room 123 (Floor P1)

ESE Certified Members Lunch

Thursday 17 Sep – VIP Room (M1)

AEDE General Assembly

Thursday 17 Sep – Room 120 (Floor P1) 16.30h

ESE Registered Postgraduate Student Members Lunch

Friday 18 Sep – Room 127 – 128 (Floor P1) 13.15h -15.00h

IFEA Annual Assembly

Friday 18 Sep – Room 123 (Floor P1)

Editorial Board meeting of IEJ
(International Endodontic Journal)

Saturday 19 Sep 16.45 - 18.30 – Room 119

3D efficiency_

optimal cleaning while preserving dentine



XP ENDO
finisher



FKG
swiss endo

Dr. Gilberto Debelian, Xpanding the NiTi technology in endodontics, *Thursday*

Dr. Bertrand Khayat, Mechanical endodontics from initial penetration to optimal cleaning, *Friday*

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PRE - CONGRESS COURSES



PRE-CONGRESS COURSES

WEDNESDAY, SEPTEMBER 16th

CBCT for the management of complex endodontic problems Hall 4 (Room 118 – Floor P1)

Partly sponsored by J.Morita Europe GmbH

14.00 CBCT Introduction



Dr Shanon Patel

14.10 CBCT for managing complex anatomy



Dr Shanon Patel

Abstract:

There is no doubt that CBCT has made a significant impact on the management of teeth with endodontic problems. This presentation will highlight how CBCT has completely changed my approach to managing teeth with complex root canal anatomy.

Aim:

To discuss the impact of CBCT on endodontic management of teeth with complex root canal anatomy.

Objective:

Understand the indications for using CBCT when managing complex anatomy.

14.40 CBCT for diagnosis of apical periodontitis



Mr Francesc Abella

Abstract:

An accurate diagnosis of a dental pulp compromised by caries, dental procedures or other forms of injury is crucial for making appropriate treatment decisions. Despite the lack of scientific evidence, it is reasonable to assume that conventional radiographic examination is not sufficiently sensitive to provide information about periapical lesion conditions (degree of inflammation and pathological state) and the pulp status. Radiography is designed to detect pathological changes at the tissue level rather than at the cellular level. Both in vitro and in vivo studies have shown that CBCT is more effective than radiography in detecting periapical lesions. These findings suggest that the absence of radiolucency on periapical radiographs does not guarantee a healthy periapex, and that CBCT scans are better suited than periapical radiographs for diagnosis. This presentation discusses papers and clinical cases to show that CBCT is an effective tool for diagnosing apical periodontitis.

References:

- > Abella F, Patel S, Duran-Sindreu F, Mercadé M, Roig M. Mandibular first molars with disto-lingual roots: review and clinical management. Int Endod J 2012;45:963–78.
- > Abella F, Patel S, Duran-Sindreu F, Mercadé M, Bueno R, Roig M. Evaluating the periapical status of teeth with irreversible pulpitis by using cone-beam computed

tomography scanning and periapical radiographs. J Endod 2012;38:1588–91.

> Abella F, Patel S, Durán-Sindreu F, Mercadé M, Bueno R, Roig M. An evaluation of the periapical status of teeth with necrotic pulps using periapical radiography and cone-beam computed tomography. Int Endod J 2014;47:387–396.

Objective:

The presentation is based on studies conducted over the last few years at Universitat Internacional de Catalunya in Barcelona (Spain).

To know what a periapical lesion is;

To describe the presence or absence of periapical lesions on individual roots of endodontically treated and untreated teeth;

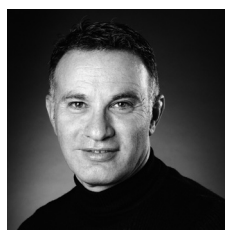
To diagnose radiographic signs of periapical pathosis in the event of contradictory (nonspecific) signs and/or symptoms;

To confirm nonodontogenic causes of pathosis;

To discuss the presence of false-positive readings in CBCT images.

15.10 Coffee Break

15.30 Should we use CBCT to diagnose vertical root fractures and other clinical complications?



Dr Hagay Shemesh

Abstract:

There is a debate on the ability of CBCT to diagnose vertical root fractures. This presentation will highlight the evidence we have on diagnosing vertical root fractures with CBCT and will briefly discuss the benefits of a CBCT scan for other clinical complications like traumatic injuries and perforations.

Aim:

To discuss the diagnostic capabilities and limitations of CBCT on endodontic complications.

Objective:

Understand the indications for using CBCT when managing complex endodontic cases and the current scientific evidence.

16.00 Introducing CBCT into postgraduate endodontic programmes



Prof Nestor Cohenca

Abstract:

Clinical applications of cone-beam computed tomography (CBCT) in endodontics has been in constant development since 2003. Among them, diagnosis, treatment planning, trauma, root resorption, calcified canals, anatomical variations and follow-up, to cite a few. Compared with the traditional spiral computed tomography, high-resolution limited CBCT results in approximately 1% of the effective absorbed dose of radiation. Three-dimensional endodontics has become a valuable component in endodontic education. Although not mandatory, it should be encouraged in all advanced endodontic training in order to allow residents to understand the limitations of 2D imaging and the impact of 3D technology. Once trained, postgraduate students should be able to provide a better service to patients based on accurate diagnosis, treatment planning and treatment. Eventually this technology will facilitate safe and effective root canal treatment and contribute to decision-making in cases in which it may be prudent to set the boundaries and evaluate the benefit/risk ratio that will be in the best interest of the patient's care.

Aim:

Three-dimensional imaging has become part of endodontic training. The purpose of this lecture is to discuss the importance of adopting this technology on all postgraduate endodontic programmes and the implications for our specialty.

Objective:

1. Understand the value of CBCT in Endodontics;
2. Discuss the potential benefit of CBCT technology in postgraduate endodontic programs;
3. Discuss the impact of 3D education on the future of our specialty.

16.30 The limitations of CBCT



Erwin Berkhout

Abstract:

Cone-beam computed tomography is rapidly becoming a standard procedure in endodontic treatments. The modality has many advantages over conventional 2D projection radiography. However the use of CBCT in the dental office and specialized endodontic office has limitations. Those limitations can be divided into technical limitations, radiation dosage and limitations in efficacy of dental care.

When justifying the use of CBCT in endodontic treatment the dentist should be aware of not only the advantages of the technique but also of the limitations and drawbacks of it, so he/she is able to make a good cost-benefit analysis of each use.

Aim:

To discuss the current hype in the use of CBCT in dentistry and to draw attention to limitations and drawbacks of the use of this modality.

Objective:

Understand the limitations of CBCT in dentistry and specifically in endodontics

17.00 Panel Discussion

17.30 SESSION ENDS

Pre-congress Course – Acteon Room 127 (Floor P1)



8.30 OPEN DOORS

09.00 The use of ultrasound and bioceramics in surgical endodontic treatment, using a 3D model and Zeiss microscopes



Dr Gilberto Debelian

12.00 SESSION ENDS

13.30 OPEN DOORS

14.00 The use of ultrasound in non-surgical endodontic treatment, using a 3D model and Zeiss microscopes



Dr Gilberto Debelian

17.00 SESSION ENDS

Pre-congress course - Carestream Dental Room 125 (Floor P1)



Abstract: Dental Cone Beam Computed Tomography (CBCT) has risen in prominence as an imaging technique in dentistry and as a subject of controversy. The availability of CBCT equipment has run ahead of the scientific evidence base. The latest information on dental CBCT will be presented

Objectives:

- > Describe the various types of CBCT for endodontic and dental use
- > Understand, Principles of CBCT, optimization and quality control and Diagnostic efficacy - Recognize the potential of the Use of CBCT in Endodontic Diagnosis and Treatment
- > Illustrate the basic applications of CBCT by using Carestream Software

14.00 SESSION STARTS



14.00 CBCT Systems suitable in Endodontics and how do they work
Dr. Borja Zabalegui



14.30 Resolution and parameter values for high quality images in endodontic CBCT
Dr Roberto Aza



15.00 Potential of Minimally Invasive Endodontic practice by using CBCT images

Dr José Maria Malfaz

15.30 Coffee break

15.45 Hands-on, practice and tutorial of a complex endodontic clinical case by using the CBCT software

17.00 Panel Discussion

17.30 SESSION ENDS

Pre-congress Course - Coltène Whaledent Room 133 (Floor P1)

 **COLTENE**

with friendly assistance by ZEISS Meditec AG

14.00 The Hyflex EDM concept for anatomy driven preparations of highly curved and double curved canal systems



Antonios Chaniotis

Abstract:

The use of nickel-titanium engine driven endodontic instruments has expanded dramatically since the first attempts at manufacturing endodontic files from super elastic alloy.

Over the years, engine driven shaping of the root canal system became synonymous with modern root canal instrumentation. New cross sectional instrument designs, variable tapers and crown down techniques were introduced and adopted very quickly. Recently reciprocation movement was introduced and challenged rotation in terms of efficiency, simplicity and safety.

In this era of NiTi instrumentation blast, heat treated NiTi martensitic controlled memory files were introduced and became rapidly very popular. Their flexibility, fracture resistance and lack of super elasticity allowed for adequate anatomically driven preparations even for the most challenging canal systems.

Now that everybody is moving towards martensitic flexible files with controlled memory characteristics, a new generation of files has come to revolutionize instrumentation efficiency and safety. The new electrical discharge machined (EDM) HyFlex™ files arrived to supplement the successful controlled memory series and reduce the number of files needed to prepare challenging root canal systems.

Aim:

The aim of this workshop is to introduce you to the new EDM era of rotary instrumentation for the highly curved and the double curved canal systems

Objective:

At the end of this workshop the participant will manage to:

- > Understand the biological objectives of root canal treatment manipulation in relation to each anatomical challenge;
- > Understand and appreciate the controlled memory thermomechanical processing and electrical discharge machining for the manufacturing of rotary files;
- > Establish a roadmap for customized instrumentation protocols with the HyFlex CM & EDM rotary files even for the most challenging cases;
- > Practice the suggested shaping protocol in highly curved and doubled curved training blocks with 3 rotating instruments;

- > Achieve a three dimensional filling of the prepared root canal system using greater taper gutta-percha points in combination with GuttaFlow 2;
- > Take away tips and hints to use them in the every day practice.

17.30 SESSIONS ENDS

Pre-congress Course: FKG Room 128 (Floor P1)



The morning course is repeated in the afternoon.

09.00 Biologic and conservative endodontics. 3D disinfection of the root canal system using memory shape technology.



Martin Trope

Abstract:

The root canal system is highly complex making cleaning during root canal treatment challenging. Most files are round limiting their potential to scrape oval shaped canals, fins off the main canals, communications and isthmuses between the canals. In fact, several studies using micro CT technologies demonstrate that by the end of the instrumentation of the root canal round files touch only in 45-55% of the walls of the canal. Because of these shortcomings many adjunct techniques have been tried to compensate for these shortcomings including; high concentration of NaOCl, EDTA, ultrasonication or using

lasers technology.

The XP-endo Finisher files are designed and produced using the principles of memory shape of NiTi alloys. The file will resemble a traditional straight file at room temperature (Martensite phase) but transform to a specific shape at body temperature inside the root canal (Austenite phase).

Micro CT studies have shown remarkable effectiveness for this finishing file.

Aim:

Xpanding the NiTi technology in endodontics.

Objective:

At conclusion, participants should be able to:

1. Understand the biological requirements for successful root canal treatment;
2. Understand the role of mechanical instrumentation in controlling intracanal infection and facilitate the effects of irrigation and intracanal medication in disinfecting the root canal;
3. Understand the technological challenges and possibilities in endodontic instruments to predictably remove intracanal infection;
4. Present the physical and clinical characteristics of the new XP-endo files;
5. Demonstrate the clinical use of these files;
6. Present micro CT studies to show its effect of removing soft and hard tissue left behind or produced during the instrumentation.

13.00 SESSIONS ENDS

14.00 Biologic and conservative endodontics. 3D disinfection of the root canal system using memory shape technology.



Martin Trope

18.00 SESSIONS ENDS.

Pre-congress Course: MICRO-MEGA Room 130 (Floor P1)



14.00 How to perform successful root canal preparation in continuous rotation with single files?

Alberto Dagna



Tara Mc Mahon



Abstract:

The purpose of root canal treatment is to prevent and to eliminate apical periodontitis.

Today practitioners want to have a system that is simple to use, reliable and allows predictable results.

We have at our disposal new high performing instruments and advanced technologies that improve the results, reduce the risk of fracture and maximize the efficiency of orthograde treatment.

MICRO-MEGA, a leading manufacturer in endodontic instruments, introduced new revolutionary NiTi instruments some time ago. Their newest innovation combines a single use glide path development file: One G and single use shaping file: One Shape. These two files are used in continuous rotation, which reduces the learning curve, as it is a rotary system well known by dentists.

Combining the One Shape with the One G, will both reduce difficulty due to canal anatomy, since a smooth glide-path will have been established and will reduce file fracture as they are both single use sterile files.

Objective:

At the end of the workshop, participants should be able to understand:

- > The purpose of the glide-path and its development with One G file;
- > The objectives of a single use file versus multiple use file system;
- > The single file system advantages;
- > The clinical application of the One Shape New Generation;
- > The purpose of proper shaping in regard of the subsequent phases that follow, irrigation and root canal filling.

15.30 SESSIONS ENDS

Pre-congress Course - Kerr Endodontics Room 129 (Floor P1)



Prof. Gianluca Gambarini

14.00 Lecture: A novel, comprehensive approach to root canal treatment. Part 1: Three-dimensional shaping and cleaning of root canal complexities



Prof. Gianluca Gambarini

Abstract:

The recent development of 3D diagnostic devices (CBCT) is not only improving clinical diagnosis and treatment planning in endodontics, but it is showing the hidden anatomy of root canal systems, and influencing concepts and current trends in endodontic procedures. Such findings are also supported by many in vitro studies with microCT analysis, which clearly show that we need to improve the quality of our operative techniques, mainly by understanding root canal anatomy in three dimension and selecting those materials and protocols which

are best suited for such anatomical complexities.

The course will describe a novel three dimensional approach showing the ideal requirements for correctly addressing the root canal anatomy (3D shaping) and those new techniques that can improve performance and safety. The need for improved final irrigation techniques will be also described, mainly aiming at addressing those non-instrumented areas (irregularities, fins, isthmi, etc) inside complex anatomies, which cannot be reached by instruments, but ideally should be cleaned and disinfected.

Objective:

At the end participants will be able to understand the need for three dimensional shaping and cleaning of oval and irregular canals; evaluate the differences in motion between instruments; select the best procedures for 3D shaping and cleaning.

15.00 A novel, comprehensive approach to the endodontic treatment. Part 1: Hands-on Course



Prof. Gianluca Gambarini

Abstract:

The course will show how to use reciprocating stainless files with the M4 handpiece and the novel TF Adaptive instrumentation technique, which aims at combining advantages of both reciprocation and continuous rotation. The course will also discuss clinical hints on how to avoid those iatrogenic errors which frequently reduce the quality of shaping and consequently of cleaning. The devices and operative techniques will be fully described and participants will practically perform the procedures.

Objective:

At the end participants will be able to clinically use the new TF Adaptive system; understand when it is preferred to use reciprocation and when to use continuous rotation; clinically use M4 reciprocating handpiece.

16.00 Coffee Break

16.30 Lecture: A novel, comprehensive approach to root canal treatment. Part 2: Three-dimensional filling of root canal complexities



Prof. Gianluca Gambarini

Abstract:

In the first part of this course the need for improved shaping technique for oval canals and the need for improved final irrigation techniques aiming at addressing irregular and non-instrumented areas (like fins, isthmi, etc) inside complex anatomies was discussed. Ideally these areas should be cleaned, disinfected and then filled. Therefore, in this second part of the programme filling procedures will be discussed, mainly focusing on the 3D dimensional obturation of irregular or non-instrumented areas of complex root canals, using new devices (Elements Free) for increased performance and user friendliness of procedures. Moreover the importance of a good ratio between gutta-percha and sealer will be discussed and the best techniques to achieve these goals will be presented.

Objective:

At the end participants will be able to understand the need for three dimensional filling of oval and irregular canals; evaluate the difference in 3D filling among the various techniques; select the best procedures for 3D fillings.

17.00 A novel, comprehensive approach to the endodontic treatment. Part 2: Hands-on Course



Prof. Gianluca Gambarini

Abstract:

The course will present a new cordless device (Elements Free) which allows dentists to perform a downpack with continuous wave of obturation (System B) and backfill with thermoplasticized fluid gutta-percha (Obtura-like). The device and operative technique will be fully described and participants will practically perform the procedures.

Objective:

At the end participants will be able to understand the features of the new Elements Free device; clinically perform canal filling with Elements Free.

17.30 SESSIONS ENDS

Pre-congress course: DENTSPLY MAILLEFER Room 121 (Floor P1)



The morning course is repeated in the afternoon

09.00 Shaping Canals using WAVEONE® GOLD in reciprocation



Dr Wilhelm-Joseph Pertot

Abstract:

Even though the objectives of endodontics have remained unchanged for the past half century, the evolution in techniques and technology in the last 15 years have made root canal treatments more reliable and predictable.

Amongst these evolutions, the introduction of nickel-titanium instruments in 1995 revolutionized shaping procedures. Most of the instruments on the market feature a constant taper and are used in a continuous rotation motion.

In 2011, the WAVEONE® concept, based on the use of reciprocation movement, was introduced into the market. This unique movement created a new concept of “single file shaping technique” and proved to be able to shape canals using one file in more than 80% of the cases. This concept introduced simplicity and safety in root canal preparation for general practitioners.

WAVEONE® GOLD is the latest iteration of WAVEONE®, launched in 2015, after 3 years of further research and development.

WAVEONE® GOLD maintains the philosophy of a specifically designed single NickelTitanium instrument to shape canals utilizing a reciprocating motion after prior glide path enlargement.

WAVEONE® GOLD exhibits advanced heat-treated nickel-titanium alloy, with a newly designed parallelogram cross-section. The system features four optimized tip diameters to cover a broader range of canal morphologies, reduced tapers to fulfil the requirements of minimally invasive endodontics and offering better flexibility and more resistance to cyclic fatigue.

The new WAVEONE® GOLD improves safety and efficiency when shaping canals. In the majority of cases only a single WAVEONE® GOLD Primary file is needed thus reducing the number of instruments in any given sequence to an absolute minimum.

Objective:

The objectives of the session is for each participant:

- > to understand the pro and cons of the reciprocation movement;
- > to understand the evolution between WAVEONE® and WAVEONE® GOLD;
- > to learn how to treat canals in a reliable and reproducible manner using WAVEONE® GOLD in reciprocation;
- > to understand the limits of mechanical instrumentation and identify its limits;
- > to work under microscope with our new 3D printed molar tooth.

12.00 SESSION ENDS

14.00 Shaping Canals using WAVEONE® GOLD in reciprocation

Dr Wilhelm-Joseph Pertot

17.00 SESSIONS ENDS



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The background of the entire page is a solid light blue. It is populated with numerous white, irregular, polygonal shapes of various sizes and orientations. These shapes are scattered across the page, creating a dynamic, abstract pattern. Some shapes are simple triangles or quadrilaterals, while others are more complex polygons. The overall effect is reminiscent of a mosaic or a collection of torn paper pieces.

PROGRAMME



PROGRAMME

THURSDAY, SEPTEMBER 17th HALL 1 (Room 115 – 117)

9.00 – 9.45 Opening Ceremony

9.45 – 10.30 Post-endodontic indirect restorations: new solutions for old issues Part 1



Roberto Spreafico

Abstract:

Restoration of root filled teeth are accomplished routinely using either direct or indirect adhesive techniques. However, in the most difficult cases, this approach represents a challenge for the clinician. Adhesive procedures should be performed on tissues whose quality, due to previous restorative treatments and/or carious lesions, may be compromised and this will modify their reliability, for example, dehydration of dentine, the absence of marginal ridges and missing pulp chamber roof all lead to weakening of the tooth itself. Most of these scenarios drive the

clinician to choose an indirect complete or partial restoration, to achieve better protection for the remaining tooth tissue.

Some studies report a superior performance for complete vs. partial restorations, but many do not provide conclusive. Traditional composite resin or ceramic inlays, onlays or overlays are the most recognized type of indirect partial reconstruction. Among ceramic materials, lithium-disilicate and similar materials are now considered for their aesthetic features, for their resistance to axial load and for their polishability.

Some concerns have been raised about the thickness of indirect partial restoration as polymerization of the luting cement could be insufficient; however, a correct “build-up” with composite materials can overcome this problem.

Modern CAD/CAM chairside devices are able to construct indirect restoration in ceramic and composite materials and longitudinal studies report good outcome results and further improvements to these techniques might encourage this type of reconstruction, particularly those named “endocrown”.

In summary, indirect partial extensive adhesive restorations might be a reliable alternative to complete crowns in all posterior teeth, thus preserving sound tooth structure and creating a better interface with the periodontal tissues.

Aim:

To illustrate the features of indirect partial adhesive restorations for root filled teeth, by illustrating the various types of restorations and presenting the most up-to-date procedures, both for traditional and CAD-CAM Chairside workflows.

Objective:

- > To focus on the characteristics of tooth structure before and after root canal treatment;
- > To clinical procedures to eliminate compromised tooth tissue and to preserve the sound tissue;
- > To discuss the advantages of adhesive procedures for root filled teeth;
- > To prepare the remaining tooth tissues and to build-up a solid composite interface on which the indirect restoration can be cemented;
- > To describe the type of materials employed in partial indirect restorations;
- > To illustrate the polymerization techniques available to achieve good conversion of the luting cement;
- > To describe the workflow for indirect partial restoration procedures;
- > To describe the digital workflow for CAD CAM Chairside procedures to make partial indirect restorations;
- > To summarize all the possible alternatives to indirect partial restorations.

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product, service, course, and/or company, or in any firm beneficially associated therewith, that will be discussed or considered during the proposed presentation.

10.30 Coffee Break

11.00 – 11.45 Post-endodontic indirect restorations: new solutions for old issues Part 2



Massimo Gagliani

Abstract:

Tooth restoration is a fundamental phase of root canal treatment as it provides a coronal seal to protect the root filling from reinfection. The reconstruction of root filled teeth should be routinely accomplished using direct or indirect adhesive procedures, however, in the most difficult cases it represents a challenge for the clinician. In these cases the residual tooth structure may be limited and careful attention should be paid to the type of hard tissue available and to all the surrounding tissues.

In such teeth a post is frequently needed to build a sound core for a crown or a partial restoration; however, the materials used and the type of post are still debated as well as the type of cement that should be used. Although it seems as if fibre posts are preferred, longitudinal studies have demonstrated that titanium posts and fibre posts could be considered to have the same clinical outcome. Studies based on Finite Element Analysis have confirmed this clinical evidence, moving the problem to the cementation procedure rather than to the type of post being used.

When planning for a post-endodontic reconstruction in a severely destroyed tooth the so called “ferrule effect” should be pursued, for crown stability and to reduce the stresses of the post on the root canal. In some cases, periodontal surgery may be necessary to obtain sufficient crown height to allow a ferrule to be prepared.

The use of posts have been suggested to reinforce teeth and some clinical and experimental data has confirmed that, particularly in premolar teeth, direct adhesive reconstruction could be utilized also in root filled teeth.

Modern CAD/CAM chairside devices have recently demonstrated a clear efficacy in post endodontic reconstruction, and their use could be considered in the future with a radical change in the operative workflow.

In summary, a wide spectrum of reconstruction procedures are available and several methods frequently lead to the same satisfactory conclusion.

Aim:

To present a wide spectrum of solutions for the reconstruction of root filled teeth severely damaged by previous carious or traumatic processes and to illustrate consolidated and innovative solutions to repair or to rebuild these teeth

Objective:

- > To focus on adhesion in intracanal dentine;
- > To outline the relationship between tooth and surrounding periodontal tissue;
- > To present evidence on post and core systems;
- > To illustrate luting procedures for cementation of indirect restorations;
- > To evaluate luting procedures for post cementation into root canals;
- > To present personal research results on influence of post in the biomechanical process of tooth reconstruction;
- > To consider innovative procedures as a possible alternatives to traditional paradigm of reconstruction.

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11.45 – 12.30 Endodontic treatment and aesthetics



Mr Francesc Abella

Abstract:

Several clinical and endodontic epidemiological studies have demonstrated that among different tooth types maxillary lateral incisors had the poorest healing rate. Maxillary lateral incisors have anatomical variations, such as apical root curvature and thin roots, which may make it difficult to adequately clean and fill the root canal system. In addition, dens invaginatus and other morphological defects (e.g. talon cusp, and the palato-gingival groove) occur more frequently in these incisors than in other tooth types. Endodontic treatment of such developmental anomalies may prove complicated. In selected cases, longer continued controls of this type of teeth may be indicated than controls of other teeth. We should also note that traumatic dental injuries are chiefly observed in the maxillary anterior region. Correct diagnosis, treatment planning and follow-up of the injury is essential and can only be achieved through detailed history taking as well as clinical and radiographic assessment. The problems relating to trauma (e.g. crown/root fracture, root resorption) can cause both functional and aesthetic sequels. This presentation attempts to show how, from an endodontic standpoint, we can diagnose and manage these challenges in the anterior region. References: Teixidó M, Abella F, Duran-Sindreu F, Moscoso S, Roig M. The use of cone-beam computed tomography in the preservation of pulp vitality in a maxillary canine with type 3 dens invaginatus and an associated periradicular lesion. J Endod 2014;40:1501-4.

Objective:

- > To know how to diagnose different types of morphological abnormalities in anterior teeth;
- > To describe the use of CBCT as an aid for diagnosis and treatment planning;
- > To discuss different methods to preserve bone in patients with continuous skeletal growth;
- > To explain different methods for restoring anterior teeth.

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12.30 – 13.15 How to: Retaining bone following ankylosis and tooth decoronation



Barbro Malmgren

Abstract:

Dental trauma is common in children in the age interval 8 to 10 years when the incisors are immature, erupting teeth change their position, and the alveolar process is developing. Also growth of the jaws is intense. Follow up after severe injuries, particularly avulsion and intrusion, is therefore complicated. Avulsion and intrusion involve damage both to the pulp and periodontal ligaments. Dento alveolar ankylosis is a serious complication often following these injuries.

The presentation is based on studies performed at the Eastman Institute in Stockholm during the last 30 years. A new study, "Long-term follow-up of 103 ankylosed permanent incisors surgically treated with decoronation - a retrospective cohort study", will be presented. Decoronation of permanent ankylosed incisors were performed in 102 patients at Eastmaninstitutet, Department of Pediatric dentistry during the period 1978 - 1999. Seven patients were excluded due to incomplete records, patients moving out or not attending their appointments. The study group consisted of 95 patients with 103 decoronated permanent incisors. The aim of this retrospective cohort-study was to evaluate the marginal bone development after decoronation related to gender and age at treatment.

References:

Malmgren B, Malmgren O. Rate of infraposition of reimplanted ankylosed incisors related to age and growth in children and adolescents. Dent Traumatol 2002; 18: 28-36.

Malmgren B, Cvek M, Lundberg M, Frykholm A. Surgical treatment of ankylosed and infrapositioned reimplanted incisors in adolescents. Scand J Dent Res 1984;

Aim:

To describe the complex problems of dento alveolar ankylosis with a focus on the growing patient and decoronation.

Objective:

- > To describe Infraposition of ankylosed incisors in children and adolescents;
- > To discuss different treatment options on the growing patient;
- > To described a decoronation technique;
- > A discuss a theoretical explanation based on tooth eruption and bone biology.

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13.15 -15.00 Lunch

14.00 - 15.00 Poster Presentations Exhibition Area General Endodontic Posters / Room 129 Clinical Posters / Rooms 130, 131, 132 Original Scientific Posters

Trade Exhibition Open

15.00 – 15.45 How to: Saving the unsavable - managing deep subgingival tooth fractures



Prof. Gabriel Krastl

Abstract:

Restorative treatment of crown-root fractures is often complicated due to inaccessible subgingival fracture margins. Extrusion of the remaining root is an alternative method to surgical crown lengthening for re-establishing the biological width. This can be carried out either orthodontically (forced eruption), or surgically (intra-alveolar transplantation). Although the treatment of crown-root fractures is one of the most technically demanding procedures in dental traumatology and is frequently considered as a long-term temporary restoration, tooth conservation up to the age at which implants can be placed may be regarded as a success.

Aim:

To review the current approaches to the treatment of teeth with deep subgingival fractures.

Objective:

- > To discuss the clinical problems associated with deep subgingival margins;
- > To demonstrate how endodontic and restorative treatment can be carried out in difficult cases.

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15.45 – 16.30 How to: Treatment planning complex endodontic cases: where is the limit?



Lars Bergmans

Abstract:

Within our chemomechanical paradigm for endodontic therapy, initial treatment complexity is often related to unusual anatomy. Regarding retreatment cases, the level of difficulty mainly depends on the presence of iatrogenic damage such as ledges or fractured files, or the existence of persistent infections. The decision on whether or not to proceed with a more complex case may therefore depend on the operator's training and expertise.

From an ethical perspective, the decision making process should be based upon a BRA formula: a benefit (B), risk (R) and alternative (A) analysis. Or, phrased as a question:

'SHOULD' I do this?

Should 'I' do this?

Should I do 'THIS'?

In this way, the true limit of endodontic therapy in dental treatment planning can be assessed.

Aim:

To answer the questions above using the existing endodontic literature on prognosis and treatment outcome.

Objective:

- > To understand possible consequences of not treating chronic endodontic infections;
- > To discuss the prognostic factors and treatment outcome (both nonsurgical and surgical);
- > To discuss the alternatives to root canal treatment.

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16.30 – 17.00 Coffee Break

17.00 – 17.45 How to: Using fibre reinforced composite posts



Pekka Vallittu

Abstract:

Dental and medical biomaterials as well as the majority of man-made industrial materials have been historically isotropic, i.e. their properties do not vary according to certain direction of the material. In dentistry, isotropic materials are metals, ceramics, polymers and particulate filler resin composites. Natural constructs, whenever they are of living origin, utilize hierarchical and oriented microscopic structures, which are typically containing fibre- like phases. From the perspective of evolution, it has been desirable to have highly durable, especially tough materials of low weight. One example of a fibre containing tubular structure is a tooth. In today's world, engineers have started to utilize principles of constructing materials and devices with microscopic and macroscopic anisotropy. Well-known examples of these can be found from the aerospace industry. Anisotropy of fibre-reinforced composites (FRC) can be found, e.g. in terms of mechanical properties, optical properties, thermal properties, surface properties and volumetric change properties in curing. When FRCs are utilized in root canal post applications, benefits of the material can be realized only if the natural anatomy and mechanism of action under loading conditions of tooth is understood.

FRC root canal posts started to be used in the late 1980s and although they are generally used today, it is still uncertain whether FRC posts of most common type are functioning better than traditional metal posts. This concern is justified because presently used posts systems are not fulfilling mechanical requirements and adhesive requirements of modern dentistry. To overcome this concern, and to utilize all the benefits of FRC materials in root canal applications, the function and behavior under loading of teeth after being reconstructed have to be carefully considered. Therefore, instead of using prefabricated solid posts, anatomically formed, so called "custom posts" should be used.

Aim:

To provide information on the properties of fibre reinforced composite and give research based information how they can be used clinically in root canal post – crown systems.

I declare I have a past or present financial interest/arrangement, consulting position, or affiliation with the corporate organization(s) whose product(s) I will discuss in my presentation.

Affiliation/Financial Interest: Consultant with StickTech-GC group

Affiliation/Financial Interest: Honorarium from Dentsply

Material support: Heraeus Kulzer, Voco, Coltene-Whaledent, 3M-ESPE

17.45 – 18.00 How to: Gaining an adequate ferrule in compromised teeth - aesthetic and structural problems solving



Maciej Zarow

Abstract:

Discoloured anterior teeth can have a negative effect on a patient's appearance. In the past, many root filled teeth were reconstructed using metal posts and crowns. Today, more conservative strategies such as bleaching, fibre posts, composite restoration or minimal invasive veneers represent an alternative treatment option.

On the other hand, root filled teeth have impaired crown stiffness due to structural loss of hard tissues. Preserving intact coronal and root tooth structure, especially maintaining cervical tissue to create a ferrule effect, is considered to be crucial for the optimal biomechanical behaviour of restored teeth. The presence of ferrule has a positive effect on fracture resistance of root filled teeth.

Aim:

To review the current options for treatment of aesthetically and structurally compromised root filled teeth.

Objective:

- > To understand the clinical challenges connected with partial or complete lack of ferrule;
- > To define clear guidelines of treatment strategies to endodontists and operative dentists.

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THURSDAY, SEPTEMBER 17th HALL 2 (Room 111 – 112)

09.45 – 10.30 Correlation between pulp tests and pulp condition



Dr. Isabelle Portenier

Abstract:

Accurate diagnosis of pulp status is essential for a proper endodontic treatment planning. Understanding of pulpal physiology and neurology is necessary in order to interpret correctly the readings from the diagnostic tests commonly used in dental practice.

Electrical and thermal tests are most commonly used to assess pulpal sensibility. However, these tests have limitations and shortcomings. The readings have to be assessed together with other clinical tools such as radiographs to avoid false results, which may lead to unnecessary treatment (false negative – treatment of a healthy pulp) and inappropriate treatment (false positive – no treatment of a necrotic pulp).

Pulp vitality is the assessment of the true health status of the pulp by examining the pulpal blood flow. Laser Doppler flowmetry and pulse oximetry are such pulp vitality tests and show promising results. However, there are some practical issues that needs to be addressed before these tests can be introduced into dental practices.

Aim:

To review the correlation between pulp tests and the condition of the pulp.

Objective:

- > Have an understanding of the pulp physiology and neurology;
- > Discuss the various pulp sensibility tests and their limitations and shortcomings;
- > Discuss pulp vitality tests and their limitations.

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10.30 Coffee Break

11.00 – 11.45 Treatment of the deep carious lesion



David Ricketts

Abstract:

In contemporary practice, dental caries should be managed preventively, but if this preventive approach fails and the lesion progresses a decision has to be made to remove caries and treat the lesion operatively. Knowing that operative intervention has an impact on pulpal health, this presentation will give evidence for when a dentist should treat a tooth operatively, it questions accepted teaching in relation to how much caries needs to be removed and indeed does an indirect pulp cap exist or is this synonymous with today's conventional cavity preparation.

In a tooth with no signs or symptoms of pulp pathosis and a deep carious lesion, conventional caries removal can lead to pulpal exposure. The prognosis of a direct pulp cap in such a situation will be discussed and the presentation will challenge whether the carious lesion can be treated in such a way, based upon the microbiology, structure and behaviour of the lesion, with an aim to minimise pulpal damage and hence preserve the vital pulp.

Aim:

To discuss the treatment of the deep carious lesion.

Objective:

- > Have an understanding of the restorative cycle and the impact that operative intervention has on pulpal health;

- > To re-evaluate and give guidance as to when to restore a carious lesion;

- > To describe the inter-relationship between the carious process and pulp dentine complex reactions;

Describe how the balance between the carious process and pulp dentine complex reactions can be influenced by managing caries from a more biological approach rather than a surgical approach.

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11.45 – 12.30 Strategies for vital pulp protection and therapy



Dimitrios Tziafas

Abstract:

The pulpo-dentinal repair capacity has provided restorative dentistry with various treatment strategies aiming to maintain pulp tissue in a healthy and functional state, whenever the dentine-pulp complex has been compromised by caries, trauma or restorative procedures. In the present lecture the therapeutic validity of strategies used in today's practice for protection of the unexposed pulp and treatment of a pulp exposure in cases of iatrogenic or traumatic injuries will be reviewed.

First, an introduction will be given to the biological basis of the mechanisms underlining healing of the reversible pulp injury and repair of the dentinal defect. Furthermore, the clinical factors that play a key role in vital pulp therapy will be discussed. Issues that have been related to successful outcome of vital pulp therapy include three clinical parameters: a) operative procedures for complete removal of injurious challenges, b) restorative procedures for effective short-term protection of the treated area from bacterial micro-leakage and possible chemical insults and c) selection of the appropriate protective or capping materials to stimulate dentinogenic events by specific and well-controlled biological mechanisms. Treatment modalities used in clinical practice will be evaluated on the basis of the above clinical parameters along with evidence from preclinical experimental studies, controlled clinical trials and recent meta-analyses.

Aim:

This lecture reviews the status of knowledge regarding the therapeutic value of current treatment

modalities in vital pulp protection and therapy.

Objective:

- > Describe the basic biological aspects of healing and repair in the pulp-dentine complex;
- > Understand the role of various clinical parameters for the successful outcome of vital pulp therapy in cases of iatrogenic or traumatic injuries;
- > Understand the relationship between specificity of capping material and the long-term maintenance of pulp vitality and function.

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12.30 – 13.15 Guidelines for progressive stages of deep and extreme deep caries. A journey from partial caries removal to pulpotomy



Lars Bjørndal

Abstract:

Understanding pulp inflammation is crucial in endodontics. Inflammation is a two-edged sword comprising the platform for beneficial mineralization as well as unwanted pulp necrosis followed by bacterial infection and progression of apical inflammation. Concomitantly, it is a clinical task to deal with the borderlines of reversible pulpitis and irreversible asymptomatic pulpitis. Research has shown that a suggested treatment may vary when the deep carious lesion is examined, reflecting a low level of evidence. However, recent clinical randomized trials have started to emerge perhaps making treatment decision more easier to perform regarding a pulp invasive approach versus a non-invasive pulp approach, but global networking are indeed needed to solve the classical dilemma of being able to save the pulp or not. The lecture will present examples of deep carious lesions and suggested treatments. Variables such as penetration depth of the carious lesion, caries progression and patient age may play a role for a proper prognosis. A suggested guideline for deep carious handling is presented based on published clinical data, involving a journey from partial caries removal to pulpotomy, including two categories of pulp-capping (class I and class II).

Aim:

The aim of this presentation is to present aspects of the deep carious dilemma and to incorporate recent advances in clinical research into a practice-based guideline in order to obtain a higher degree of treatment consensus.

Objective:

- > To raise the insight of deep caries pathology and treatment;
- > To be familiar with a suggested practical guideline for treating the deep carious lesion;
- > To be aware of limitations in the guidelines.

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13.15 - 15.00 Lunch

14.00 - 15.00 Poster Presentations Exhibition Area General Endodontic Posters / Room 129 Clinical Posters / Rooms 130, 131, 132 Original Scientific Posters

Trade Exhibition Open

15.00 - 15.45 International Association of Dental Traumatology guidelines



Nestor Cohenca

Abstract:

The management of dental trauma remains a significant clinical challenge affecting health-care providers and patients alike. Falls, accidents and sport-related injuries are the most frequent causes of dental trauma. Patients present with a wide variety of injuries ranging from crown or root fractures, to injuries to the supporting periodontal structure, including luxations and avulsions. Treatment is complex, time consuming, expensive and requires a multidisciplinary approach.

Aim:

This presentation will discuss the current IADT guidelines, with emphasis on current evidence-based literature supporting therapeutic modifications, as well as new philosophies to be considered for future guidelines.

Objective:

- > To become familiar with dento-alveolar traumatic injuries and their complications;
- > To implement the most recent, state-of-the-art diagnostic and treatment modalities;
- > To learn new concepts under research and development and their implications on upcoming guidelines.

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15.45 – 16.30 Pulp stones - an obstacle to endodontic therapy



Carsten Appel

Abstract:

It is commonly believed that pulp stones and denticles are rare. Often they are not recognized during diagnosis and successful root canal treatment is more difficult or even prevented by their presence. This lecture will present a clinical perspective on the various investigations on pulp stones and denticles that have been published.

Aim:

To describe the challenges presented by pulp stones and denticles.

Objective:

- > To discuss the possible genesis of pulp stones, their incidence and relation to other diseases;
- > To demonstrate their impact on endodontic therapy;
- > To illustrate through presentation of cases the clinical and radiographic appearance, as well as failure and treatment possibilities;
- > To demonstrate removal of pulp stones, along with which instruments to use and how to prevent treatment failures.

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16.30 – 17.00 Coffee Break

17.00 – 17.45 Endodontic outcome – CBCT - a paradigm shift



Shanon Patel

Abstract:

There is a gradual realization that the conventional method of assessing the outcome of endodontic treatment with periapical radiographs is outdated and not particularly accurate.

This presentation will describe the results of the first series of prospective clinical trials assessing the outcome of PRIMARY and SECONDARY root canal treatment with CBCT by the KCL research group.

New and important prognostic factors influencing the outcome of root canal treatment will be described. I will also describe how these factors have changed the way I manage my patients in practice, as well as how they have modified the way we teach our postgraduates at KCL.

Aim:

To discuss the impact of using CBCT to assess the outcome of root canal treatment and re-treatment.

Objective:

> To understand the limitations of periapical radiography for assessing the outcome of root canal treatment;

> To discuss the impact of a more accurate imaging system (CBCT) on the outcome of root canal treatment;

> To gain an insight into new prognostic factors which have an impact on the outcome of treatment.

No declaration made

17.45 – 18.30 Novel methods to assess the volume and content of bone defects.



Elisabetta Cotti

Abstract:

The primary objective of any IMAGING technique for DIAGNOSIS, TREATMENT PLANNING, TREATMENT AND FOLLOW-UP of APICAL PERIODONTITIS is to detect the pathologic structures and to assess their size and development. Furthermore, the imaging procedure should yield information (if possible) on the histopathology of a lesion in order to enable a differential diagnosis and the selection of adequate therapeutic measures. The increasing development of CBCT is allowing the

clinician and the researcher in the field of Endodontology to assess the presence, location and size of apical periodontitis (along with other information) with great precision; the measurement of the volume is one of the latest development of its use. In addition to this, the development of non-invasive and therefore safer imaging technology (which does not use ionizing radiation) such as Ultrasound real-time echotomography and Magnetic resonance imaging (MRI) have become a revolutionary diagnostic techniques to complement traditional radiology in many cases. Ultrasound imaging is the only technique that possess the sensitivity to detect bone lesions in the jaws while assessing their volume, their solid or fluid content and their internal and external blood supply at the same time. It also permits the immediate and late follow-up of root canal treatment based on changes in volume, density and vascular perfusion. MRI has several advantages over CT/CBCT in the diagnosis of soft tissue lesions and should be considered for differential diagnostic problems when abnormal expansion of lesions occurs in the bones and when there is involvement of soft tissues, nerves and vascular supply.

Aim:

To describe novel methods to assess the volume and content of bone defects.

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THURSDAY, SEPTEMBER 17th HALL 3 (Room 113 – 114)

10.30 – 11.00 Coffee Break

11.00 – 11.30 Sponsor session: DENTSPLY MAILLEFER: PROTAPER NEXT®: the next generation of rotary files



Dr. Wilhelm-Joseph Pertot



Abstract:

Even though the objectives of root canal treatment have remained unchanged for the past half century, the evolution in techniques and technology in the last 15 years have made root canal treatments more reliable and predictable.

Amongst these evolutions, the introduction of nickel-titanium instruments in 1995 revolutionized canal shaping procedures. Most of the instruments on the market feature a constant taper and are used in a continuous rotation motion. In 2000, PROTAPER®, the first instrument designed with a variable taper, was introduced. It was then improved in 2004 and called PROTAPER® UNIVERSAL (PTU). In 2013, PROTAPER NEXT® (PTN), new instruments with an offset cross section and a variable taper were introduced. Unlike other instruments which revolve around a central axis, PROTAPER NEXT® instruments revolve around a dual axis, resulting in an envelope of movement with intermittent contact points with the canal walls. This unique movement, that allows the file to rotate in a swaggering (snake-like) motion, results in improvement of debris removal, reduction of the screwing action, less stress on the file and on the canal walls. Also, with their new design and tapers, PROTAPER NEXT® files present a better resistance to cyclic fatigue when compared to PROTAPER® UNIVERSAL. The design of the PROTAPER NEXT® files reduces the number of instruments needed to achieve a treatment when compared to the PROTAPER® UNIVERSAL sequence, with better distribution of cutting action and stresses when moving from one instrument to another. A link will be created between scientific studies and their impact on the clinical root canal procedure, with discussion of different clinical cases with different root canal anatomies.

11.30 – 12.00 Sponsor session: DENTSPLY MAILLEFER: Prediction of cyclic fatigue life and pressures against the canal walls of NiTi rotary files by Virtual Modeling and Finite Element Analysis



Prof. Elio Berutti



Abstract:

The Finite Element Method (FEM) has been proposed as a method to analyze the stress distribution in nickel-titanium (NiTi) rotary instruments under static conditions. It has not, however, been used as a method to analyze the mechanical behaviour of endodontic instruments in a virtual space under dynamic conditions.

The first objective of this study was to predict the number of cycles to failure (NCF) and the failure location of NiTi rotary instruments by FEM virtual simulation of an experimental fatigue test.

The second objective is, always through the FEM, to analyze the different pressures produced against the canal walls by two different NiTi rotary instruments (PROTAPER NEXT®, Bio Race) inside virtual canals obtained from extracted teeth using micro-CT.

12.00 – 12.30 Sponsor session: DENTSPLY MAILLEFER: Minimally invasive shaping?

Dr Damiano Pasqualini



Abstract:

Modern root canal treatment is intended to be a balance between a minimally invasive approach, based on the respect of the original canal anatomy through a reduction of instrumentation sequences and time, and the necessity for optimal debridement and disinfection of the root canal system.

New technologies play a relevant role in achieving these objectives. Innovations in NiTi alloys and instrument design have influenced the clinical use of rotary instruments by enhancing their performance. MicroCT studies are considered the gold standard when investigating the shaping outcomes of instruments and systems.

The objective of the lecture is to provide a perspective on modern root canal treatment. A review of the scientific background and a clinically oriented discussion will be presented, with a significant focus on 3D microCT analysis of PROTAPER NEXT® and PROGLIDER®.

12.30 – 13.15 Sponsor session: MICRO-MEGA: Effect of design on the behaviour of rotary root canal instruments

Dr Franck Diemer



Abstract:

Current concepts in root canal system preparation largely rely on mechanical instrumentation. Two major factors affect the choice of instruments for root canal preparation: its ability to achieve the root canal shaping and its safety. The file accuracy is linked to its resistance to fracture, its lack of threading in dentinal walls when used in continuous rotary motion and its ability to respect the initial canal path in curved canals. The original canal anatomy must be maintained. Most of these factors depend on the profile of the instrument and so, on the design of its active part. When used in a continuous rotating motion, even at low speed, NiTi instruments may thread into the canal. Using instruments with flat radial land areas reduced this tendency. However, radial-landed instruments generate very high stresses even if they are able to safely prepare up to ten canals without fracture due to cyclic fatigue. Stresses may be localized in the cutting edges but also at the core of the instrument. And they are more evenly distributed on instruments with no radial lands. Recent numerical studies have described the bending and torsional mechanical behaviour of non radial land endodontic rotary Ni-Ti instruments with similar size and various designs for tapers, pitch, and cutting blades and concluded they do not have the same bending and torsional mechanical behavior. Each clinician must be aware of these behavior differences so as to use the best file according to the clinical situation and to the manufacturer's recommendations.

13.15 – 15.00 Lunch

14.00 Poster Presentations. Exhibition Area General Endodontic Posters / Room 129 Clinical Posters / Rooms 130, 131, 132 Original Scientific Posters

Trade Exhibition Open

15.00 – 15.45 Sponsor session: VDW: Sonic irrigation versus ultrasonic irrigation for root canal disinfection



Dr Klaus Neuhaus



Abstract:

Passive ultrasonic irrigation (PUI) is recognized as an efficient method to activate irrigation solutions during root canal (re)treatment. However, in curved root canals there are problems regarding the activation of irrigation solutions “beyond” the curvature. The activated tip should not touch the root canal walls,

because it changes the morphology and because contact with the dentine wall causes loss of energy distal to the contact area.

A new sonic irrigation device is presented in this lecture. There is preliminary evidence that sonic activation functions in curved root canals, and that the energies created by sonic activation support root canal disinfection in endodontic biofilm models.

15.45 – 16.30 Sponsor session Kerr Endodontics: Unlocking the root canal system



Prof Philippe Sleiman



Abstract:

After several ESE presentations on NiTi alloy, it is time we moved into the clinical sphere. Today, thanks to the great new studies of the root canal system anatomy, we must be asking ourselves how it is possible to access the majority of this complex system.

Root canal treatment is a series of steps beginning with comprehensive diagnosis. We are going to present some cases demonstrating the use of CBCT for proper diagnosis and treatment planning as well as shaping for cleaning of the main canal or the space of lesser resistance, where the smear layer produced has to be eliminated via a proper sequence and technique of chemical preparation in order to “open all the doors” and to prevent the lateral pushing of the debris and locking of the system. The final stage of the treatment is the sealing of the root canal system using the gold standard of warm vertical compaction.

16.30 – 17.00 Coffee Break

17.00 – 17.45 Sponsor session: FKG: Xpanding the NiTi technology in endodontics



Dr. Gilberto Debelian



Abstract:

The root canal system is highly complex making cleaning during root canal treatment challenging. Micro-CT studies demonstrate that by the end of the instrumentation phase, round files touch only 45-55% of the walls of the canals. Many adjunct techniques have been tried to compensate for these shortcomings including; high concentration of NaOCl, EDTA, ultrasonication or using laser technology. The XP-endo Finisher (XPeF) files are designed and produced (MaxiWire) using the principles of memory shape of NiTi alloys depending the temperature that they are exposed to. XPeF will resemble a traditional straight file at room temperature (Martensitic phase) but will start to transform to a specific shape at body temperature inside the root canal (Austenitic phase). These files have a size

25 diameter with a 0 (zero) taper so as to maintain maximal flexibility. At maximum austenitic phase (350C) the file has a semi-circular shape with a 3 mm diameter to enable it to transform into any canal shape and reach irregularities, fins and resorption areas. XPeF is designed to be used with irrigants after root canal instrumentation with the aim of removing vital and/or necrotic tissues, dentinal debris accumulated during instrumentation and smear layer. Preliminary micro-CT studies have shown remarkable effectiveness for this finishing file.

Objective:

At the conclusion, participants should be able to:

1. Understand the technological challenges and possibilities in endodontic instruments to predictably remove intra canal infection;
2. Present the physical and clinical characteristics of the new XPeF files;
3. Demonstrate the clinical use of XPeF files;
4. Present preliminary micro CT studies showing its effect of removing soft and hard tissues left behind or produced during the instrumentation.

THURSDAY, SEPTEMBER 17th HALL 4 (Room 118)

9.45	Education Prize Presentations Dr John Whitworth
9.50	Innovations in teaching biostatistics to residents in endodontics fellowship: a pilot study *Arias A, Peters OA, Broyles IL
10.10	Effect of curricular changes in endodontic education on root canal treatments performed by undergraduate students. *Baaij A, Özok AR
10.30	COFFEE BREAK
11.00	Wladimir Adlivankine Prize Presentation Prof. Leo Tjäderhane
11.10	Evidence for nitric oxide and prostaglandin signalling in the regulation of odontoblast function in identified regions of the rodent mandibular incisor *Alhelal A, Mahdee A, Gillespie JI, Whitworth J, Eastham J
11.30	Guided Endodontics: Accuracy of a novel method for guided access cavity preparation and root canal location *Connert T, Zehnder MS, Weiger R, Krastl G, Kühl S
11.50	Comparative evaluation of the shaping ability of ProTaper Next and Protaper Universal rotary NiTi files in curved root canals of extracted human molar teeth *Ferrara G, Taschieri S, Ceci C, Corbella S, Del Fabbro M, Machtou P
12.10	The effect of ferrule and different reattachment designs on strengthening of the vertically fractured teeth using fiber and adhesive materials *Kurnaz S, Keçeci AD, Kaya Ureyen B
12.30	Canal and isthmus cleanliness of mesial roots of mandibular molars after Laser Activated Irrigation: a micro-computed tomography study. *Verstraeten J, Meire MA, Jacquet W, De Moor RJ
13.15	LUNCH BREAK
14.00	Poster Presentations. Trade Exhibition Open
15.00	Clinical Abstract Presentations Prof Gianluca Gambarini

15.00	Microsurgical re-treatment of endodontically treated teeth with incomplete vertical root fracture: a clinical case report Taschieri S, *El Kabbaney A, Tsesis I, Corbella S, Rosen E, Del Fabbro M
15.22	A new technique and a new device to remove broken endodontic instruments from root canals *Widera N
15.44	Non-surgical root canal treatment of a maxillary lateral incisor with triple dens in dente and five canals *Amezcuca O, Cruz A, Cholico HP, Cabada A
16.06	Contemporary management of a perforated mandibular first molar by a multidisciplinary approach: report of a case with 7-year follow-up *Tsurumachi T, Tsurumachi N
16.30	COFFEE BREAK
17.00	Research Abstract Presentations Prof. Leo Tjäderhane
17.00	Functional assessment of dental pulp response to caries by T2 and ADC Mapping: An in vivo magnetic resonance feasibility study *Cankar K, Vidmar J, Nemeth L, Sersa I
17.22	Dose reduction and Cone-Beam Computed Tomography accuracy *Al-Nuaimi N, Patel S, Foschi F, Mannocci F
17.44	The effects of antibiotic pastes used in endodontic regeneration on the microhardness of dentine *Yilmaz S, Dumani A, Yoldas O
18.06	Tooth survival following root canal treatments in Sweden. First report from a Scandinavian Endodontic Research Collaboration network (EndoReCo) *Fransson H, Dawson VS, Frisk F, Bjørndal L, Kvist T
18.30	SESSION END

THURSDAY, SEPTEMBER 17th HALL 5 (ROOM - 119)

Oral Presentations on freely chosen subjects

9:48	Does root canal treatment in non-vital or retreatment cases require anesthesia? An in vivo clinical study Kfir A, Blau-Venezia N, Tsesis I, Goldberg T, *Metzger Z
10:10	Pain levels and typical symptoms of acute endodontic infections *Rechenberg DK, Held U, Burgstaller JM, Bosch G, Attin T, Zehnder M
10:30	COFFEE BREAK

Oral presentations on freely chosen subjects

11.00	The Influence of brushing motion on the cutting behavior of three reciprocating files in oval-shaped canals *Alattar S, Nehme W, Diemer F, Naaman A
11.22	How calcium hydroxide and culturing influence Enterococcus faecalis in mixed biofilms *van der Waal SV, Connert T, de Soet JJ, Crielaard W

11.44	Stress distribution in endodontic instruments during preparation of the root canal. A finite elements analysis *Kiefner P, Yao Y, Ban M
12.06	Nickel-titanium versus stainless steel Instruments for orthograde endodontic therapy: a systematic review and meta-analysis Del Fabbro M, *Elkabbaney A, Corbella S, E. Badr A, Taschieri S
12.28	A comparative study of six rotatory NiTi instruments in preserving canal curvature according to the file system and the number of uses with CBCT *Casani Herranz E, Giménez del Cura G, Juárez Navarro I, Moreno García M, Rodríguez Arrevola N
12.50	Single file systems for root canal preparation: Fact or Fiction *Saber S
13.15	LUNCH BREAK
14.00	Poster Presentations. Trade exhibition Open

Oral presentations on freely chosen subjects

15.00	OTR Movement (Optimum Torque Reverse) in root canal shaping: research and Clinical applications. Rovai F, *Ambu E, Peducci F
15.22	Volumetric 3D mapping of dentinal cracks after intracanal procedures De-Deus G, Belladonna F, *Souza EM, Versiani MA
15.44	Impact on root dentine after identification and instrumentation of complex root canal anatomy ex-vivo *Paque F
16:06	Effect of ethylenediaminetetraacetic acid gel on the incidence of dentinal cracks caused by three novel nickel-titanium systems *Aksoy F, Aydin U, Karataşlıoğlu E, Yildirim C
16:30	COFFEE BREAK

Oral presentations on freely chosen subjects

17:00	Comparative evaluation of the shaping ability of six different nickel-titanium file systems produced by different manufacturing methods. *Karataşlıoğlu E, Yildirim C
17:22	Assessment of different carrier-based obturation systems: micro-CT comparison with warm vertical compaction *Zogheib C
17:44	Moulding ability of endodontic gutta-percha *Briseño Marroquín B, Wolf T, Willershausen B
18:06	A micro-CT evaluation of the obturation after immediate and delayed post preparation *Piasecki L, Carneiro E, Westphalen VPD, Fariniuk L, Giampietro Brandao C, Da Silva Neto UX
18:30	SESSIONS ENDS

FRIDAY, SEPTEMBER 18th HALL 1 (Room 115 – 117)

09:00 – 09:45 How to: Understanding tooth anatomy. Anatomical variations of posterior teeth



Dr Ronald Ordinola-Zapata

Abstract:

A wide morphological variation exists in the root canal system of posterior teeth. Improvements with digital imaging systems in the last decade have enabled in vivo and in vitro evaluation of root canal anatomy using non-destructive methods such as cone-beam CT or microcomputed tomography.

Another advantage of digital technology is the recent incorporation of physical models of root canal anatomy using a technology called the rapid prototyping technique.

Some anatomies as mandibular premolars are typically described as single-rooted entities, however, two or three root canals can be found in this anatomy and are frequently described in the literature. In addition, mandibular and maxillary molars have several anatomical variations of clinical interest such as the presence of the middle mesial canal, the mesiopalatal canal (MB2), C-shaped canals and the presence of additional roots as the radix entomolaris anatomy.

This lecture will present results found during microcomputed tomography analysis of mandibular first premolars and maxillary and mandibular molars presenting several anatomical variations. Advantages of rapid prototyping models as well as morphometric parameters of the microanatomy that are critical for the surgical or non-surgical endodontic treatment of these teeth will be presented.

Aim:

To describe the advantages of microCT and rapid prototyping models for the quantitative and quali-

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tative analysis of the root canal system of posterior teeth and its impact in non-surgical and surgical endodontic treatment.

Objective:

- > Describe the advantages of microCT technology over the clearing technique;
- > Analysis of the mandibular first premolar with different anatomical variations including radiographic and CBCT interpretation;
- > Analysis of the apical anatomy of the mesiobuccal root of first and second maxillary molars including description of dentine thickness in the MB2 root canal area;
- > Critical analysis on the prevalence and instrumentation of the middle mesial canal in mandibular molars;
- > Analysis of the C-shaped canal anatomy in mandibular molars.

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09:45 – 10:30 How to: preparing minimal access cavities



Carlos Boveda

Abstract:

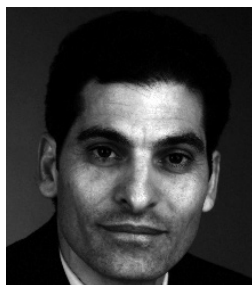
Contracted endodontic access cavities have been described recently as a way to afford conservation of coronal dentine thus increasing resistance of teeth to fracture. Although this concept looks promising and may be beneficial to patients, clinicians have to learn new concepts and adapt their skills in order to work effectively in restrictive spaces. Under this approach, identifying and appropriately treating the whole pulpal space becomes a new challenge. This lecture is designed to provide clinicians with insight into how to perform root canal procedures through a reduced cavity as a less invasive alternative than

the conventional root canal treatment approach.

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10.30 – 11.00 Coffee Break

11.00 – 11.45 How to: Determining working length and final canal preparation size



Dr. Ashraf Elayouti

Abstract:

We are bombarded day-by-day with too much information, too many advertisement, too many devices, too many systems and too many problems. At some point in time all endodontists need clarity about the goal of root canal treatment. Simply, the aim is permanent disinfection while preserving as much anatomy as possible.

The apical extent of root canal treatment has been repeatedly shown to correlate with endodontic success. Radiographic working length determination has limited options when the apical constriction and foramen are to be accurately determined. With the rise of modern apex locators, reports of their accuracy have been published. The notion that all modern apex locators are similarly accurate has to be revised. The diverse apical anatomy and geometry will always pose a challenge during working length determination and canal preparation. Which method to use in which situation will be dictated by the apical anatomy. While 3D visualization of root canal anatomy has given us an insight into the complicated anatomy of the tooth, this is not enough to decide on the optimal method for working length determination and canal preparation. Broad analysis of micro-CT images of the teeth will provide us with enough information to decide on the optimal end-point of root canal treatment and the size, form and taper of the final canal preparation.

ration that will allow optimal disinfection and preserve the tooth. Mapping the apical anatomy and superimposing the measurements of apex locators along the canal path will help us to understand the influence of apical anatomy on the accuracy of these devices and will aid clinicians to make the right decision when determining the extension, size and taper of root canal preparation.

Aim:

To present 3D reconstructions and analysis of micro-CT images of the apical anatomy; aid clinicians to reach the utmost accuracy when using endometric tools; visualize the initial topography and extension of the root canal and help avoid faulty working.

Objective:

Extensive analysis of micro-CT scans and visualization of 3D reconstructed images of the apical anatomy will aid the understanding of the topography of the apical anatomy including apical landmarks such as the foramen and constriction as well as the taper, outline and size of the root canal. Anatomical causes of strip perforations and overinstrumentation will be presented.

Superimposing wide scale measurements of modern apex locators on the apical anatomy will demonstrate the diversity of the accuracy of these devices and the influence of the apical anatomy on the display of apex locators.

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11.45 – 12.30 How to: 3D cleaning and shaping the root canal system. Co-contributor: Nicola M. Grande



Prof Gianluca Plotino

Abstract:

Mechanical instrumentation represents a crucial step in the control of intracanal microbial infection for successful root canal treatment. The management of root canal preparation in contemporary treatments consists of three main phases: the negotiation of root canals, including scouting, glide path and pre-flaring; the shaping procedures, that is the preparation of the body of the root canal to a basic size; and the finishing procedures, represented by apical enlargement and refinement. The lecture will address the problem of how to shape and clean root

canals in three-dimensions, starting from the analysis of some of the basic concepts of root canal instrumentation, which have been established in the past, but are still debated: access cavity preparation, straight-line access, glide path and pre-flaring, crown-down and step-back techniques, tapers and dimensions of apical preparation. With the introduction of cone-beam computed tomography (CBCT) technology, endodontists are now able to clinically visualize the real 3D anatomy of root canal systems. Since canal shape is mainly irregular and current instruments are mostly designed to work ideally in round canals, new strategies for operative techniques must be developed to optimize treatment in oval and irregular canals. Therefore, the lecture will explain how to increase the amount of canal walls touched by the instruments, the need for enhanced cleaning and disinfecting procedures, the importance of maintaining the original path and avoid iatrogenic errors. The impact of present advancements in concepts and techniques, instruments and technologies on the quality of the shaping procedures will be assessed and discussed clinically and with the aid of research conducted using modern investigation 3D techniques, including in vivo CBCT and in vitro micro-computed tomography (MCT). Moreover, future technologies for cleaning and shaping the root canal system, including non-instrumentation techniques, and their possible benefits as alternative treatments, will be discussed.

Aim:

The main goal of this lecture is to describe and evaluate the current paradigms shift in all the phases of root canal instrumentation, including procedures such as minimal invasive endodontics, mechanical glide path, single-length techniques, reciprocating movement, innovative designs and manufacturing processes and deep-shape apical preparation.

Objective:

The objectives of this lecture are that, at the conclusion, participants should be able to:

- > evaluate the real 3D anatomy of teeth, shown through the use of a specifically developed three-dimensional software for the analysis of CBCT and MCT data;
- > to describe the basic concepts of root canal instrumentation as established by the classic theories;
- > to evaluate critically the advantages and disadvantages of the current technologies, instruments and techniques
- > to understand the paradigms shift in endodontics
- > to discuss the future trends in root canal cleaning and shaping and to perform new strategies to optimize treatment.

The lecture will describe how the development of new instruments and techniques continues to revolutionise the approach to the different steps of the cleaning and shaping phases of the root canal treatment. New diagnostic tools, the use of microscope and magnification, the enhanced mechanical characteristics of endodontic instruments and new approaches to chemical and mechanical debridement permit the clinician to enhance the quality of the treatment, starting from a more conservative approach to the access cavity and orifice opening, to a selective root canal preparation including an accurate approach to the apical anatomy and an enhanced attention to the cleaning of the inaccessible areas.

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12.30 – 13.15 How to: Removing root filling materials and posts



Arnaldo Castellucci

Abstract:

The use of modern endodontic techniques and treatment protocols result in high success rates for primary root canal treatment. Nevertheless, due to certain anatomical or biological constraints and/or after iatrogenic interference, treatment might not result in a positive outcome. This may necessitate either conventional or surgical retreatment. Today, thanks to new technologies, new instruments and new materials, many cases that years before could have been treated only surgically or extracted, can be retreated non-surgically with a very

high long term success rate.

Using the operating microscope it is easy to remove the old root filling materials, broken instruments or posts of any kind. Every challenge existing in the straight portion of the root canal system, even if located in the most apical part, can be easily seen and then solved under the microscope, with magnification and coaxial illumination. To date, many solvents and rotary instruments are available to remove sealer, gutta-percha, carrier based obturators, and ultrasonics tips and special devices can be used to remove fractured endodontic files. Glass and carbon fibre posts can be easily disintegrated without damaging the surrounding dentine and prefabricated and cast posts can also safely and predictably be removed with special devices, without risk of fracturing the root.

Once the existing filling materials and posts have been removed, the root canal treatment can be performed as in a primary case.

Aim:

The aim of the presentation is to describe modern materials, instruments and techniques that can be used in every day practice when performing root canal retreatment, in order to save teeth that otherwise would have been treated surgically or extracted and replaced with implants.

Objective:

At the conclusion, participants should be able to:

- > Describe various methods to accomplish and ensure complete disassembly and thorough canal exploration upon nonsurgical retreatment;
- > Describe current armamentarium and techniques for retreating gutta-percha, sealer, silver cones, carrier based obturators and broken instruments;
- > Describe the technique required to remove any kind of posts safely and predictably.

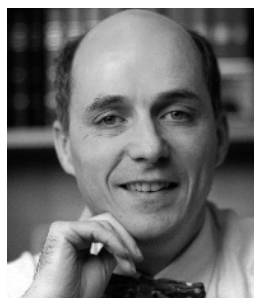
I declare that I have NO proprietary, financial, or other personal interest of any nature or kind in any product, service, course, and/or company, or in any firm beneficially associated therewith, that will be discussed or considered during the proposed presentation.

13.15 – 15.00 Lunch

14.00 - 15.00 Poster Presentations. Exhibition Area General Endodontic Posters / Room 129 Clinical Posters / Rooms 130, 131, 132 Original Scientific Posters

Trade Exhibition Open

15.00 – 15.45 How to: Treating teeth with iatrogenic perforations



Dr Oliver Pontius

Abstract:

What to do when iatrogenic perforations are present? The occurrence of perforations during root canal treatment is reported to range from 2.3-12%. Perforations lead to inflammation and the destruction of periodontal fibres and alveolar bone and can cause a periodontal defect and finally tooth loss. Therefore it is important to diagnose and repair perforations predictably.

Although there are no long-term, prospective studies and there are somewhat conflicting data about the treatment outcome (success rates ranging from 54% - 90%), perforations can be repaired successfully with meticulous cleaning and shaping, adequate disinfection, proper handling of the repair material and 3D filling followed by adequate restoration.

Aim:

To identify the important pre-, intra- and post-operative variables contributing to treatment outcome of perforation repairs.

Objective:

- > How to decide if we should treat a perforation?
- > How to treat a perforation based on the clinical situation?

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15.45 – 16.30 How to: Treating root canals containing a broken instrument



Prof Mario Zuolo

Abstract:

Dealing with the presence of a fractured instrument in the root canal is a challenge for the clinician. Instructions on how to remove broken instruments can be found in the literature, generally in the form of clinical case reports. These procedures lack standardization, use different types of techniques and devices, have a low success rate, and typically pose the risk of excessively removing remaining tooth structure or of causing procedural mishaps, particularly in narrow and curved canals.

This lecture will focus on clinical protocols and new technologies for the management of teeth with fractured instruments. Contemporary technological advances have allowed the development of more adequate and predictable treatment protocols that can be applied in everyday clinical practice. The description of a technique using magnification-ultrasound will be presented for the removal of metal fragments located cervically to or at the canal curvature. This technique has been effective for the removal of fractured files and can also reduce the risk of procedural mishaps.

Unfortunately, not all broken files can be removed, particularly in cases where they are located in the most apical portions of the canal. For these cases, a technique for bypassing instruments will also be presented, based on the internal anatomy of teeth, where space can be created to allow removal. Afterwards, a technique for root canal re-preparation will be discussed, focusing on irrigation protocols and final apical preparation. All of the techniques will be illustrated with clinical cases.

The planning of these cases should take into account factors such as the particularities of the canal containing the fragment, the stage of preparation of the root canal portion where the instrument has fractured, experience of the professional, available instruments, complications of the elected approach, importance of the tooth involved, and possible presence of apical periodontitis.

Aim:

The aim of this presentation is to guide the clinician in the management of teeth containing a fractured instrument.

Objective:

The presentation will guide the clinician in the decision-making process for dealing with cases of broken instruments in root canals. Each particular case will be diagnosed and analyzed pre-operatively

16.30 – 17.00 Coffee Break

17.00 – 17.45 How to: Finding and scouting calcified and blocked root canals



Dr Vittorio Franco

Abstract:

In daily endodontic practice we can find many difficulties: ledges, blockages, abrupt curvatures, pulp stones, calcified canals. Those things are a challenge for the operator and, in the “technological age of endo”, the line between GP and the Endodontists.

Aim:

Where and how to find the calcified canal orifices and how to reestablish patency appropriately will be described with a microscopic approach.

Objective:

Different microscopic operative procedures to solve the problems will be given and explained.

The focus will be on the use of proper lighting, the right instruments and a wetting technique, teaching the participants the tools for a correct problem-solving approach.

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17.45 – 18.30 Root canal irrigation enhancement



Prof Anil Kishen

Abstract:

Microbial-biofilms are surface-adherent consortia formed by microbes in response to environmental factors. From an endodontic perspective, microbial-biofilms in infected root canal systems have been recognized as a major therapeutic challenge. Biofilm bacteria are particularly resistant to antimicrobials and they are difficult to eliminate completely from the root canal system using conventional irrigation modalities. Enhanced irrigation strategies have been explored as advanced antibiofilm strategies, with the aim of improved clinical treatment outcomes. This lecture will review the fundamentals of root canal irrigation dynamics and the ability of current irrigation devices to combat endodontic biofilms. The current status of advanced antibiofilm strategies in root canal disinfection will be discussed.

Aim:

To review the fundamentals of root canal irrigation dynamics and the ability of current irrigation devices and strategies to combat endodontic biofilms.

Objective:

> To understand the clinical challenges and therapeutic considerations in elimination of endodontic biofilms

> To understand the current status of different advanced treatment strategies to eliminate endodontic biofilms

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FRIDAY, SEPTEMBER 18th HALL 2 (Room 111 -112)

9.00 ESE Prize presentations

09.05 – 09.50 Could endodontic disease contribute to systemic disease?



Dr Ashraf Fouad

Abstract:

The focal infection theory was first promoted in the late nineteenth and early twentieth centuries. The initial conceptual premise was highly exaggerated and mostly disproven. However, more recent studies that utilize more sophisticated methodologies have shown evidence for the association of some oral and systemic diseases. Most of the evidence presented in the past two decades has addressed the role of periodontal disease, because of its high prevalence, wide dissemination in the oral cavities of affected patients and the relative ease of its assessment. This presentation will focus on the emerging evidence for the asso-

ciation of endodontic disease and systemic health, at the levels of epidemiological, clinical and basic science research. The emphasis will be on the link to cardiovascular diseases, and on the evidence for directionality and strength of the relationship.

Objective:

Attendees of this session will gain information on the:

- > Origins and current status of the focal infection research;
- > The association of endodontic disease with cardiovascular disease;
- > The association of endodontic disease with other important diseases or conditions.

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09.50 – 10.35 Endodontic disease and systemic health



Prof. Juan José Segura-Egea

Abstract:

The possible connection between oral inflammatory processes and systemic health is an exciting aspect faced nowadays by the scientific community. Chronic infections of the oral cavity, such as endodontic and periodontal diseases, are characterized by a Gram-negative anaerobic microbiota and increased local levels of inflammatory mediators that may have an impact on systemic levels. Numerous studies have investigated the association between periodontal disease and diabetes mellitus, metabolic syndrome, coronary heart disease, pre-term-low birth weight, and osteoporosis. Likewise, in the last years numerous epidemiological studies have analysed the relationship between apical periodontitis (AP) and some prevalent systemic status.

AP is an acute or chronic inflammatory lesion around the apex of a tooth caused by bacterial infection of the pulp canal system. In Europe, the prevalence of AP involves 61% of individuals and 14% of teeth, increasing with age. Root canal treatment (RCT) is the elective treatment for teeth with AP that must be preserved. The prevalence of RCT is estimated around 30 - 50% of individuals and 2% - 9% of teeth, with radiographic evidence of chronic persistent AP in 30% - 65% of root filled teeth.

AP may not be just a local phenomenon. It is well known that in its non-balanced acute stage, spreading of infection and the inflammatory process to nearby tissue compartments is possible and may

bring about severe, but fortunately rare, fatal inflammatory conditions. In addition, the results of several studies have suggested the association between endodontic variables, i.e. AP and RCT, and diabetes, smoking, coronary heart disease, low bone mineral density in postmenopausal women, chronic liver disease, and inherited coagulation disorders. Furthermore, several data suggest a relationship between systemic diseases and RCT outcome. This lecture reviews the current status of knowledge regarding the connection between endodontic disease and systemic health.

Aim:

This lecture reviews the current status of knowledge regarding the connection between endodontic disease and systemic health. The possible association between diabetes, coronary heart disease, smoking, and others systemic states are reviewed.

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10.35 – 11.00 Coffee Break

11.00 – 13.15 Education symposium

11.00 – 11.45 Monitoring and assessment in clinical endodontics



Dr John Whitworth

Abstract:

This session will commence with an update on the ESE Undergraduate Curriculum Guidelines (2013), their uptake and usefulness, suggestions for future revision, and methods of improving exchange with the endodontic teaching community. This will be followed by an update on our 3-year project with the ADEE, in which we seek to define minimum standards for the assessment and monitoring of our undergraduate students as they progress through their clinical attachments. The mission is to develop practical guidelines that recognise what is possible, as well as what is aspirational. The views and perspectives of

all stakeholders are important and we encourage attendees to share their views through small-group and open discussion.

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11.45 – 12.30 Dyad teaching - reflections from a dental perspective. Training on your own or together with a fellow student: learning and cost effectiveness



Berit Eika

Abstract:

Every dentist must master a large number of both motor and cognitive skills in order to treat patients well. Traditionally, the training of clinical skills takes place in a one-to-one learning setting. Depending on the experience of the learner, he or she observes an expert, is observed by an expert, or works on his or her own, thereby acquiring increased proficiency in relevant skills. In a resource constrained educational and health care system, an increase in learning efficiency induced by effective training methods is of significant value. One way of enhancing

the cost-effectiveness of skills training is by increasing the ratio of learners to instructors, such as in dyad practice, while maintaining equal learning gain. Dyad practice is when two participants collaborate on learning a task that is intended to be mastered on an individual basis. Dyad practice is a training method that has been reported to be both effective and efficient in the psychomotor as well as in the cognitive literature. It has been found that collaborating with a partner can result in equal or even better learning outcomes compared to practising individually, underlining the effectiveness of dyad practice. This part of the symposium will introduce the participants to dyad practice.

Aim:

The overall aim of the lecture is to provide information about dyad training and to inspire the participants to consider inclusion of dyad training into curricula.

Objective:

The presentation will

- > Describe existing experience and evidence;
- > Explain reasons for learning and cost-effectiveness;
- > Suggest perspectives for including dyad training or other cost effective training methods in curricula.

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12.30 – 13.15 Artificial teeth for skills training in Endodontology - experiences and impact on clinical performance



Jörg Tchorz

Abstract:

Can artificial teeth replace extracted human teeth in undergraduate endodontic education?

Aim:

The aim of this lecture is to give an overview of different teaching concepts in undergraduate endodontic education, especially the application of training models and artificial teeth.

Objective:

Different types of artificial teeth are compared and brought to the lecture. The auditorium is invited to listen to our experiences, look at different artificial teeth and discuss pros and cons.

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13.15 - 15.00 LUNCH

14.00 - 15.00 Poster Presentation Exhibition Area General Endodontic Posters / Room 129 Clinical Posters / Rooms 130, 131, 132 Original Scientific Posters

Trade Exhibition Open

15.00 – 15.45 Oral infection and coronary artery disease



Pirkko Pussinen

Abstract:

The association of oral infections and cardiovascular diseases (CVD) was published in 1989, when dental health was reported to be significantly worse among patients with acute myocardial infarction (Mattila 1989) and severe chronic dental infection associated with cerebral infarction (Syrjänen 1989). Recently the research has concentrated on two aspects: 1) the relationship between chronic low-grade inflammation and development of atherosclerosis, and 2) the role of acute phase response in increasing the risk for severe CVD events.

Coronary artery disease is mainly caused by atherosclerosis, which is a slowly progressive, multifactorial disease described as a disorder of lipid metabolism and a chronic inflammatory disease. Bacterial infections, including oral infections, may play a significant role in atherogenesis directly and indirectly. Local infection may result in systemic inflammation when the proinflammatory mediators spread from the infection site. In addition, oral bacteria give rise to systemic antibody response through molecular mimicry; these proatherogenic antibodies cross react with bacterial and host antigens including for example heat shock proteins and epitopes in oxidized low density lipoprotein. Evidently, bacteria and their virulence factors have an access into the circulation resulting in systemic

inflammation. One of the most studied virulence factor, which potentially originates from the oral microbiota, is lipopolysaccharide. It is a potent activator of both innate and adaptive immunity and considered as a proatherogenic molecule.

Among the oral infections associating with an increased risk for coronary artery disease, the most studied one is marginal periodontitis. The association of apical periodontitis / endodontic infection and coronary artery disease is seldom studied and largely unknown. Furthermore, only limited amount of data is available on the association of oral microbiota and coronary artery disease. Therefore, our project aims to investigate this relationship using clinical and epidemiological studies.

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15.45 – 16.30 Antibiotics in Endodontics



Riina Richardson

Abstract:

Antibiotics are the cornerstone of modern medicine and they enable various other life-saving therapies such as cancer treatment and organ transplantation. Therefore, antibiotics should be used sparingly to preserve their future effectiveness: they should only be prescribed on the basis of a defined need. Antibiotics can be responsible for various adverse effects and indiscriminate prescribing of antibiotics promotes drug resistance. Several studies have demonstrated that antimicrobial therapy without appropriate drainage is ineffective. Despite this, antibiotics are frequently prescribed instead of endodontic treatment. Antibiotics are also often prescribed as an adjunct to operative treatment to prevent post-procedure flare-up although studies have shown them to be of no additional benefit.

However, there are some situations in endodontics where prescribing antibiotics is beneficial and appropriate. For example, for a clearly immunocompromised patient, antibiotics may be prescribed in addition to drainage of the tooth. Also, patients with diffuse spreading of infection or evidence of systemic involvement (signs of sepsis) should be prescribed appropriate antimicrobial therapy. In severe local infections, treatment with systemic antibiotics in combination with surgery is well established. Septic patients should be managed following sepsis guidelines and blood cultures taken prior to the first dose of antibiotics.

Persistent apical periodontitis is strongly associated with microbial biofilms in root canals. Successful endodontic treatment and healing depends on eradication or significant reduction of these microbes. It is important to note that microbial biofilms are inherently resistant to antibiotics but respond to most disinfectants such as chlorhexidine. Therefore, local use of antibiotics as root canal medications is not only likely to be ineffective but risks allergic reactions requiring tooth extraction. Also, slowly decreasing concentrations of antibiotics are a risk factor for development of drug resistance.

Aim:

To update attendees knowledge on the evidence base of antibiotic use in endodontics and the principles of prescribing.

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16.30 – 17.00 Coffee Break

17.00 – 17.45 Autotransplantation of Teeth. Option before Implant



Mitsuhiro Tsukiboshi

Abstract:

Complex treatment plans using implant often include situations where the choice of autotransplantation has been overlooked. If recipient sites are jeopardized for placing implants, more time, cost and techniques are required. However, if there is a good candidate as a donor tooth found in the same mouth, transplantation can be the more appropriate option than implant. For example, the case where sinus lifting or ridge augmentation is indicated can be preferable and advantageous for autotransplantation. If patients are younger than twenty,

implant is hardly indicated.

The indications, advantages and techniques for success will be discussed in this presentation. The lecture will be extensively illustrated with many clinical cases of autotransplantation of teeth.

Aim:

The presentation will focus on the efficacy of autotransplantation of teeth not only in Endodontics but also in other various fields in dentistry.

Objective:

Participants will learn the biologic principle of wound healing after transplantation such as PDL healing, pulp healing, root development and bone healing;

The techniques for success will be shown using the video movie of an actual case and the details of the techniques will be discussed;

Various indications and success rate will be shown to have the efficacy of autotransplantation of teeth realized.

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17.45 – 18.30 Clinical implications of bacterial persistence after treatment



Dr. Jose Siqueira Jr

Abstract:

Apical periodontitis is caused by microbial infection of the root canal system. For optimal treatment outcome, the endodontic bacterial community should be completely eradicated or at least significantly reduced to levels that are compatible with periradicular tissue healing. Bacterial persistence is an important risk factor for post-treatment apical periodontitis. Molecular microbiology studies have identified the species/phylotypes that can persist after treatment or that are associated with post-treatment disease. Histobacteriological studies have

shown where persistent infections are located in the root canal system. Knowledge of the species involved and their distribution in the canal permits development of strategies to prevent or treat post-treatment disease.

Aim:

This presentation will focus on diverse aspects of bacterial persistence after treatment, including microbial identification, anatomical distribution, requisites for persisting bacteria to influence treatment outcome, therapeutic insights, and future directions of research in this field.

Objective:

- > Describe the microbiological goals of the endodontic treatment;
- > Identify the species and phylotypes commonly detected in persistent intraradicular infections and their role in the etiology of post-treatment apical periodontitis;
- > Describe where persistent bacteria are located in the root canal system;
- > Provide insights on therapeutic possibilities to deal with persistent infections.

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product, service, course, and/or company, or in any firm beneficially associated therewith, that will be discussed or considered during the proposed presentation.

FRIDAY, SEPTEMBER 18th HALL 3 (Room 113 – 114)

09.00 – 10.30 Sponsor session: VDW 2: RECIPROC single file system: 5 years later.



Prof Ghassan Yared



Abstract:

Canal preparation with a single file used in reciprocation and without the creation of a glide path will be described. The experience acquired from 5 years of clinical application will be shared and clinical tips will be presented. Limitations will be discussed and solutions will be proposed. The relevant literature will be

reviewed.

10.30 – 11.00 Coffee Break

11:00 – 11:45 Sponsor session Kerr Endodontics: TF Adaptive instrumentation

Prof Gianluca Gambarini



ENDODONTICS

Abstract:

In the last years with the introduction of reciprocation simplicity has been promoted as a main improvement in root canal shaping procedures. However, the introduction of 3D technologies has shown that root canal anatomy is not simple, and more attention needs to be paid on the quality of shaping and cleaning procedures. Therefore instrumentation techniques should combine simplicity with quality, aiming at providing adequate body shaping and apical preparation, and consequently a favorable canal space for enhanced final cleaning and filling procedures. The lecture will show the latest improvements in NiTi instrumentation, describing a new approach: TF Adaptive. The advantages of the new technique will be shown, explaining the key features: the new motion, which is a unique combination of continuous rotation and reciprocation, the benefits of TF technology in such motion, and the clinical use of the new sequences which are designed to fit all canals, combining excellent shaping results with simple and easy to perform procedures. The creation of an endodontic glide path with reciprocating SS instruments will be also presented and discussed.

11.45 – 12.30 Sponsor session: DENTSPLY MAILLEFER: Shaping the future of endodontics



Dr Julian Webber



and Dr José Aranguren



Abstract:

WAVEONE® GOLD is the latest iteration of Dentsply Maillefer's WAVEONE® originally launched in 2011, maintaining the philosophy of a specifically designed single NickelTitanium instrument to shape canals utilizing a reverse reciprocating motion after prior Glide Path enlargement. WAVEONE® GOLD exhibits advanced gold metallurgy now with four optimised tip diameters to cover a broader range of canal morphologies, reduced tapers to fulfil the requirements of minimally invasive endodontics and an altered cross section that produces a file that really improves safety, efficiency and flexibility when shaping canals. In the majority of cases only a single WAVEONE® GOLD Primary file is needed thus reducing the number of instruments in any given sequence to an absolute minimum. This lecture will look at the design features of this revolutionary new product, new DFUs and current and ongoing research. WAVEONE® GOLD takes simplicity and treatment success to another level.

12.30 – 13:15 Sponsor session: Coltène/Whaledent GmbH + Co. KG: Controlled Memory anatomy driven shaping of the internal anatomy of human teeth. How more efficient, safe and predictable can it get?



Antonios Chaniotis



Abstract:

The internal anatomy of human teeth consists of a highly complicated network of multi-planar curved, anastomotic canals, as seen in studies of root canal anatomy. Navigating efficiently, safely and predictably through this anastomotic canal network has been a matter of extensive effort and research over the years.

During the last decade, great emphasis has been placed on the increased ability to clean, shape and fill this system with newly developed materials and techniques. The ultimate objective had always been the safe and predictable three dimensional chemo-mechanical debridement and filling of the root canal system. However, effective root canal disinfection has been related to adequate apical enlargement in relation to each anatomical challenge.

Some years ago, ultra flexible controlled memory rotary files were introduced in endodontic instrumentation and became rapidly very popular for their ability to deliver adequate apical preparations even in highly curved canal systems.

Now that everybody embraces the control memory concept, a new processing of the controlled memory files is introduced to revolutionize again endodontic instrumentation. Electrochemical discharge machining of controlled memory files has arrived to increase the efficiency and safety of controlled memory instrumentation by reducing the number of files to minimum.

Objective:

1. Understand the biological objectives of curved canal management;
2. Understand the anatomical complexity of the root canal system;
3. Appreciate controlled memory shaping of curved canal systems and understand how electrochemical discharge machining improves the efficiency and safety of instrumentation;
4. Introduce combined protocols with minimal number of files for anatomically driven preparations of highly curved and double curved canals.

13.15 – 15.00 Lunch

14.00 - 15.00 Poster Presentations Exhibition Area General Endodontic Posters / Room 129 Clinical Posters / Rooms 130, 131, 132 Original Scientific Posters

Trade Exhibition Open

15.00 – 15.45 Sponsor session: MICRO-MEGA: A decision making protocol for choosing root canal shaping Instruments



Liviu Steier



Abstract:

Root canal treatment is an invasive and curative intervention that is often misrepresented to be highly file-choice-dependent among general practitioners.

In light of the overwhelming and continuously growing number and variety of the instruments available for mechanical shaping, practitioners are often confused. This confusion is exacerbated by the lack of guidelines for general practitioners faced with the pressure to decide which instruments to use. Thus, practitioners' selections of instruments are based upon in vitro studies that mostly research mechanical properties of instruments, shaping outcome, reduction of bacterial count, and similar factors that are not evaluated in randomized clinical trials (RCT). The high level of evidence resulting from RCT studies to facilitate the instrument selection is scarce if it exists at all. Consequently, while the practitioner requires and deserves a reliable decision making protocol to make safe, predictable and lasting choices, RCT and other research is unhelpful.

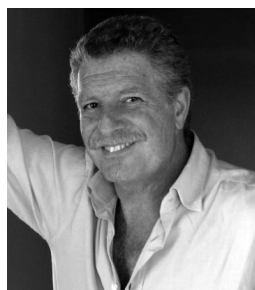
This lecture provides a decision-making protocol that addresses the instrument selection difficulties for practitioners. Decision-making utilizes tools to enhance and secure a predictable outcome and maximizes safety for both the patient and the practitioner in accordance with scientific requirements. The challenge endodontic science faces is to meet the identified confusion in a secure, sustainable, and responsible way, while supporting the practitioner in his decision making process.

The lecture suggests various solutions based on:

- > Which scientific decision making protocol is the best to use;
- > Scientifically accepted requirements for mechanical root canal shaping;
- > Most researched features of current canal shaping instruments and the impact on decision-making;
- > Case difficulty assessments and level of competency as selective criteria for mechanical shaping system selection.

The author will also demonstrate an optional decision-making protocol that differentiates among full sequence versus single file and conventional versus reciprocation movement.

15.45 – 16.30 Sponsor Session: Fotona. Laser endodontics, PDT, LAI, PIPS: where are the limits?



Dr Giovanni Olivi



Abstract:

Lasers were introduced in endodontics with the purpose to improve the cleaning and decontaminating ability of conventional endodontic techniques. Although there is a heterogeneity in data making interpretation difficult, the presented information helps to better understand the mechanism of action of different lasers, their efficiency, the different protocols used and possible related problems.

This lecture will clarify the advantages and disadvantages of different techniques used in endodontics. A review of the literature on laser applications for debriding and disinfecting the root canal will be described. Studies from the author will be also reported.

Thermal damage, not complete debriding and inefficient decontamination resulted from many studies in the literature on conventional laser endodontics and aPDT. LAI and PIPS always gave superior results compared to conventional techniques in both cleaning and disinfecting the root canals.

The complex macro and micro-anatomy of the teeth on one side, the limit of different devices or

laser fibers to easily negotiate the root canals on the other side, suggest the use of a less invasive technique that does not involve the position of any device within the canal. All the studies from the literature have revealed that PIPS as an efficient method for debriding and disinfecting the root canals.

16.30 – 17.00 Coffee Break

17.00 – 17.45 Sponsor session: FKG. Mechanical endodontics from initial penetration to optimal cleaning



Dr Bertrand Khayat



Abstract:

For many years root canal preparation was performed with hand instruments. Continuous rotation, introduced in the 1990's, was a major improvement in the shaping of the root canal, but initial penetration was still done by hand. Today new instruments are available to complete all phases of the canal preparation including pathfinding and final cleaning. The FKG scouting instruments in conjunction with the iRaCe sequence offers a global rotary solution for a fast and safe preparation. In addition, the introduction of a new rotary instrument using memory shape technology allows better cleaning without over-enlarging the canal to preserve the strength of the tooth.

The presentation will focus on the use of these specific instruments for initial penetration used at higher speed with a unique design to prevent the screwing effect. A short sequence of exclusively rotary instruments from start to finish will be exposed to maximize the quality and efficiency of root canal preparation.

FRIDAY, SEPTEMBER 18th HALL 4 (Room 118)

Oral presentations on freely chosen subjects

- | | |
|--------------|--|
| 9.00 | The Isthmus: an area difficult to manage.
*Al-Huwaizi HF |
| 9.22 | Micro-CT Root canal configuration and main foramina number investigation of 302 maxillary molars
*Wolf TG, Paqué F, Willershausen B, Briseño Marroquín B |
| 9.44 | Cone-Beam Computed Tomography study of root and canal morphology of mandibular first and second molars in a Spanish population
*Mora Christian J, Abella Sans F, Nuñez Avellaneda A, Roig C M |
| 10.06 | Accuracy of an electronic apex locator in the retreatment of teeth obturated with plastic or cross-linked gutta-percha carrier-based materials: An ex vivo study
*Palopoli P, Mancini M, Conte G, Iorio L, Cianconi L |
| 10.30 | COFFEE BREAK |

Oral presentations on freely chosen subjects

- | | |
|--------------|--|
| 11.00 | Evaluation of the effect of calcium hydroxide removed from root canal with different techniques on bonding strength of root canal sealers
*Eymirli A, Uyanik O, Calt Tarhan S |
| 11.22 | A prospective comparative study of root canal treatment using Thermafil and Cold lateral compaction in teeth with periapical lesions
*Kandemir Demirci G, Çalışkan M |
| 11.44 | Quaternary ammonium polyethyleneimine enriched sealer supports post treatment infection control
*Abramovitz I, Weisblach D, Zaltsman N, Weiss EI, Beyth N |

- 12.06** New generation intracanal pastes: antibiotics vs glycoproteins
*Öztürk A
- 12.28** Pastinject: Is it a novel instrument for root canal irrigation?
Kayahan MB, Pamukçu Güven E, Türk T, *Çiftçioğlu E, Küçükay I
- 12.50** Advances and new approaches in endodontic irrigation procedures
*İriboz E
- 13.15** LUNCH BREAK
- 14.00** Poster Presentations. Trade Exhibitions is Open.

Oral presentations on freely chosen subjects

- 15.00** Novel method for rapid detection of remnant live bacteria in the root canal space using fluorescence amplification
*Herzog D, Niazi S, Hirvonen L, Cook R, Koller G, Foschi F, Mannocci F, Festy F
- 15.22** Laser-activated irrigation using pulsed erbium lasers: principles and physical basis
*Meire MA, Poelman D, Verschraege A, De Moor RJ
- 15.44** Laser-activated irrigation using pulsed erbium lasers: value added cleaning and disinfection
*De Moor RJG, Meire MA
- 16.06** Laser-Assisted Endodontic Treatments: A Paradigm-Shift.
*Martins MR, Martins MA, Gutknecht N
- 16.30** COFFEE BREAK

Oral presentations on freely chosen subjects

- 17.00** An ex-vivo study to demonstrate the effect of direct current on the efficacy of 1% sodium hypochlorite
*Logani A, Chahar M, Shah N
- 17.22** A new alternative for intracanal negative pressure irrigation: The iNP needle. Characteristics and suggestion for the protocol of clinical use
*Adorno CG
- 17.44** Evaluation of the antibacterial and antifungal activity of benzydamine hydrochloride and conventional antimicrobial agents: an in vitro study
*Kaval ME, Yılmaz FF, Karavana SY, Güneri P
- 18.06** New perspective for endodontic irrigation: nanodroplets
*Alovisi MA, Pasqualini D, Cavalli R, Cuffini AM, Mandras N, Scotti N, Berutti E
- 18.30** SESSION END

FRIDAY, SEPTEMBER 18th HALL 5 (Room 119)

Oral presentations on freely chosen subjects

- 9.00** MTA vs gutta-percha in big apical lesion, a randomized control trial.
*Krokidis AK
- 9.22** Colour alteration of MTA: literature review and discussion of actualities
*Marciano MA, Guimarães BM, Andrade FB, Duarte MAH
- 9.44** Non-surgical treatment of perforating internal root resorption with mineral trioxide aggregate
*Kasikci Bilgi I, Turk T, Caliskan K
- 10.06** Effects of ProRoot MTA and Micromega MTA on odontoblastic differentiation in human dental pulp stem cells
*Onay EO, Yurtcu E, Terzi YK, Ungor M, Yazici AC, Oguz Y, Sahin FI
- 10.30** COFFEE BREAK

Oral presentations on freely chosen subjects

- 11.00** In vitro investigation of the diffusion of calcium and hydroxyl ions through dentinal tubules to the root surface from MTA and BioAggregate
*Aksoy U, Saklar F, Polatoglu K
- 11.22** One-session apexification – how to decide the best material to use in each particular case?
*Santos JM, Ramos JC, Palma PJ
- 11.44** Clinical outcome of direct pulp capping with MTA and an adhesive system: a retrospective analysis
*Ramos JC, Vinagre A, Malva S, Costa AL, Messias A
- 12.06** Dentine extracellular matrix components liberated by calcium silicate cements and their potential role in wound healing of the dental pulp
*Tomson PL, Lumley PJ, Smith AJ, Cooper PR
- 12.28** Replacement resorption or dentoalveolar ankylosis: Different treatment options. A review
*Ruiz XF, Mercadé M, Durán-Sindreu F, Roig M
- 12.50** Intra-alveolar root fracture associated to an alveolar cortical bone fracture. Thirty year follow up: clinical, periapical and CBCT findings
*Zabalegui B, Gonzaga Z, Zabalegui P
- 13.15** LUNCH BREAK
- 14.00** Poster Presentations.

Oral presentations on freely chosen subjects

- 15.00** Enhancing clinical diagnosis in endodontics using Cone Beam Computerized Tomography: Clinical cases.
*Tena G, Talim J
- 15.22** Influence of cone-beam computed tomography in clinical decision-making among different specialists in Endodontics
*Rodriguez Millan G, Abella Sans F, Roig CM, Bueno MR
- 15.44** Role of age & gender in relation to position of inferior alveolar nerve in indian population using CBCT
*Jaju S, Jaju P, Garcha V

- 16.06** | Highlighting the weakest link in endodontics cross-infection control: Propionibacterium acnes and the nosocomial endodontic infections
*Niazi SA, Al Kharusi HS, Vincer L, Beighton D, Foschi F, Mannocci F
- 16.30** | COFFEE BREAK

Oral presentations on freely chosen subjects

- 17.00** | How endodontists are influenced by paradigm change in restorative dentistry
*Cerny D
- 17.22** | "Fill and Drill Technique" to leakage control in open-flap operative field isolation of tooth with external cervical resorption: case report
*Cardinali F
- 17.44** | Cold atmospheric plasma biooxidative therapy or ozone therapy: theoretical basics, mistakes and clinical application
*Pavelic B
- 18.06** | Competencies self-assessment in preclinical endodontic courses
*Abiad R
- 18.30** | SESSION END

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SATURDAY, SEPTEMBER 19th HALL 1 (Room 115 – 117)

09.30 – 09.45 Minimally Invasive Endodontics using Photon Induced Photoacoustic Streaming (PIPS)

Dr Enrico DiVito



Abstract:

This presentation will describe a novel irrigation approach for debriding and decontaminating root canal systems. Eradication of micro-organisms from infected roots before canal filling is the primary focus of root canal treatment as well as the best predictor for the long-term success of the therapy. Evidence based clinically relevant literature will be shown that supports the application of Photon Induced Photoacoustic Streaming (PIPS) as an efficient additional tool

for decontamination and removal of bacteria and biofilms during root canal treatment.

Aim:

Decreased need for instrumentation with improved biofilm removal and dentine tubule disinfection allows the clinician to conserve more root structure and maintain more biomimetic forms using PIPS laser activated irrigation

Objective:

- > Participants will learn the differences between conventional “thermal” laser applications and photoacoustic delivery;
- > Participants will be able to describe the advantages and disadvantages of conventional passive and ultrasonic irrigation compared to photoacoustic laser activated irrigation;
- > Participants will be able to evaluate applications using laser-activated irrigation demonstrating effective debridement and disinfection.

I declare I have a past or present financial interest/arrangement, consulting position, or affiliation with the corporate organization(s) whose product(s) I will discuss in my presentation.

Financial interest stock: Medical Dental Advanced Technologies Group (MDATG) managing member.
Financial interest financial: Private funds used for research testing and development.

09.45 – 10.30 How to: Disinfecting dentine and removing biofilm. Use of LAI (Laser Activation Irrigation) in root canal irrigation

Dr David E Jaramillo



Abstract:

The aim of the present lecture is to understand the function of PIPS (Photo Induced Photoacoustic Streaming) and its role in the disinfection of the root canal system. PIPS have proven its effectiveness not only in the disinfection of the root canal, but also the removal of bacteria, dentinal and pulpal debris from Isthmuses, fins, lateral canal and even from dentinal tubule. The effect of PIPS on NaOCl streaming breaks the NaOCl molecules setting free the chlorine ion improving the disinfection rate of the solution.

Aim:

The aim of the present lecture is to understand the function of PIPS (Photo Induced Photoacoustic Streaming) and its role in the disinfection of the root canal system and compare its efficacy to UAI (Ultrasonic Activated Irrigation).

Objective:

- > To describe The Effect of PIPS Technology;
- > To demonstrate the Efficacy of PIPS in root;
- > To describe canal disinfection and dentin debris removal;
- > To compare the efficacy of PIPS to other irrigation techniques.

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product, service, course, and/or company, or in any firm beneficially associated therewith, that will be discussed or considered during the proposed presentation.

10.30 – 11.00 Coffee Break

11.00 – 11.45 Limits to root canal treatment.



Dr. Francesco Mannocci

Abstract:

Endodontists have seen the development of their discipline moving between scientific evidence and technical evolution. For example, at some point we all had the impression that endodontists could be either super-technically skilled, able to fill dozens of lateral canals with three-dimensional techniques or “evidence based” biologists, which never showed a sealer “puff” in the periapical tissues, in fear of reducing the chances of success of the treatment.

Are dichotomies such as this one still present? How solid is the scientific basis of endodontics? How effective are the technical developments in improving the success rate of endodontic treatments? Are the indications for endodontic treatments changing?

This presentation will try to answer these questions on the basis of some “in press” clinical trials, which using the most recent diagnostic tools, have the potential to affect significantly the evolution of endodontics.

Aim:

The aim of this lecture is to review indications and contra-indications of root canal treatment on the basis of the results of recently completed clinical trials

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11.45 – 12.30 Can we predict endodontic flare ups? Flare-ups in Endodontics



Dr Adham A. Azim

Abstract:

Flare-ups following root canal treatment appointments can cause problems for patients and dentists. The exacerbation phenomenon is complex, and its causes are not always well understood. It involves aspects related to local tissue changes, microbial factors, immunological phenomena, and other entities. To avoid such a problem, dentists have overprescribed antibiotics despite the guidelines, which limits the use of antibiotics to certain medical conditions. A better understanding of the flare-up phenomenon can help predict the problem prior to its occurrence. Correlating factors related to patients’ age, pulpal condition and medical history could bring Endodontists one-step closer to predicting this undesirable incidence.

Aim:

List etiological factors causing flare-up during treatment, discuss flare-up phenomena, describe and evaluate medications controlling inter and post-operative complications.

Objective:

Better understanding of the flare-up phenomenon and its’ clinical contributing factors.

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12:30 – 13:15 Bone regeneration in endodontic surgery: the great challenge!



Jean Yves Cochet

Abstract:

Endodontic lesions may result in significant bone destruction. Root canal treatment, when done properly, will result in the regeneration of large bony defects. However, there are times where one must resort to endodontic surgery when healing does not take place.

A new approach for the treatment of large endodontic lesions will be discussed. Today with the advent of CT and CBCT scans, we have much more information than the traditional two dimensional radiographs, allowing us to be much more

effective in our diagnosis as well as our treatment approach.

Considerable advancements have been made in endodontic microsurgery. The complementary surgical technique develops several therapeutic possibilities and increases significantly the percentage of positive outcomes. New resorbable membranes and bone grafting materials can broaden our extent of treatment to regenerate original structures, particularly in endo-perio lesions.

The piezo-surgery for endodontic surgery introduces a new philosophy for bone regeneration and preservation regarding the repositioning of the bone structure in the surgical site.

A rational surgical and non surgical approach in treating sinus pathology will be discussed.

For long term non-restorable teeth why not imagine the endodontic treatment as a way to optimize bone preservation or regeneration in preparation for a future implant. This treatment modality is documented by 25 years of CT scans and, more recently, the Cone Beam CT scan. It will be seen as a new approach for bone regeneration and preservation

Objective:

The objectives of this presentation give to the participants the possibilities:

- > To simplify treatment strategy for large endodontic lesions;
- > To identify indications for non-surgical as well as surgical treatment;
- > To read a CT Scan and a CBCT, understand its possibility;
- > To identify indications of endodontic surgery and complementary surgery;
- > To discover the extended possibilities of resorbable membranes and Piezo surgery;
- > To choose indications for a surgical approach for the endo- perio lesion.

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13.15 - 15.00 LUNCH

14.00 - 15.00 Poster Presentation Exhibition Area General Endodontic Posters / Room 129 Clinical Posters / Rooms 130, 131, 132 Original Scientific Posters

Trade Exhibition Open

15.00 – 15.45 Problem solving in non surgical retreatment



Dr Gilberto Debelian

Abstract:

University and specialty practice-based outcome studies have demonstrated an excellent outcome of primary root canal treatment in over 90% of cases with or without preoperative periapical lesions. However, less favorable outcome results have been shown when cross-sectional retrospective studies are taken into consideration, suggesting that a greater number of root filled treated teeth in the general population are associated with persisting periapical radiolucencies, classified as post-treatment endodontic disease (PTED). PTED can be predictably managed if the aetiological factors (intra- and/or extra-radicular infection) are eliminated or substantially reduced. To achieve this goal without extracting the tooth, two main treatment options

are available: root canal retreatment and/or endodontic periapical microsurgery.

Generally, PTED cases comprise about 50-90% of all cases referred to a specialist practice limited to endodontics. As such, endodontists will face these challenging cases daily and the factors that affect the clinical decision making will be dependant on several biological and clinical factors, including: patient's desires and expectations, quality of the original treatment (e.g. presence of posts, broken files, ledges, blockages, transportation, defective coronal restorations), tooth restorability and the clinical skill of the operator.

Aim:

The purpose of this presentation is to give an overview of the biological and clinical factors associated with teeth with PTED and methods to solve the clinical challenges during endodontic non-surgical retreatment to achieve a successful outcome.

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Affiliation/Financial Interest: Consultant with FKG Dentaire, Switzerland

Affiliation/Financial Interest: Financial/Material Support with FKG Dentaire, Switzerland

15.45 – 16.30 Problem solving in surgical Endodontics. Surgical endodontic retreatments: Microsurgical resolution of periapical pathology



Dr Francesco Maggiore

Abstract:

The ultimate goal of Endodontics is to treat or to prevent endodontic pathology by properly cleaning, disinfecting and filling the complete root canal system. Lesions of Endodontic origin, in a number of cases, may persist or recur after initial root canal treatment. Challenging root canal retreatments, once considered questionable, have become favourable and predictable procedures. Furthermore the periapical lesions that cannot be resolved with an orthograde approach can be properly managed using a microsurgical approach. With the

achievement of new scientific acquisitions and the advancements of modern technologies Surgical Endodontics has evolved into Endodontic Microsurgery. The Microsurgical approach allow the clinician to perform minimally invasive apical resections, to understand and to treat the apical problem, to maximize retention of critical bone and tooth structure and to provide the soft tissues with the most favourable aesthetic outcome. Surgical Endodontics once considered the last resort to save a tooth may actually represent the first and most conservative approach in a number of cases.

Aim:

Based on clinical evidence and supported by the current literature this presentation will highlight a variety of clinical situations successfully managed using a Microsurgical approach. Clinical strategies, specific techniques and operative sequences will be presented in detail.

Objective:

- > To list the factors affecting the decision-making process related to non-surgical and surgical endodontic retreatments;
- > To describe clinical strategies to apply when performing endodontic microsurgical procedures;
- > To assess the outcome of Microsurgical Endodontic Retreatments in individual cases.

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16.30 COFFEE BREAK

17.00 SESSIONS ENDS

SATURDAY, SEPTEMBER 19th HALL 2 (Room 111 – 112)

09.00 – 09.45 Dental stem cells and dental pulp tissue engineering



Kerstin Galler

Abstract:

Dental pulp regeneration has become possible by applying the principles of tissue engineering, which involve the use of stem cells, suitable scaffold materials and relevant signaling molecules. Two approaches are possible:

(1) Transplantation of stem cells on a growth factor – laden carrier material into the root canal ; and

(2) Cell-Homing by application of a customized, bioactive scaffold after release of endogenous growth factors to attract resident stem cells.

Due to a multitude of hurdles associated with stem cell transplantation, cell homing appears more feasible at the moment. However, sophisticated materials are necessary for a primarily cell-free procedure. Cells from remaining or surrounding tissues have to be attracted to populate the scaffold, adhere to it, proliferate, differentiate and form the target tissue. This presentation will define requirements for scaffold materials tailored towards pulp regeneration, describe possibilities to incorporate bioactive elements, and discuss how growth factors released from root canal dentine could support pulp regeneration. A clinical procedure will be envisioned, which might increase the chance for success for regenerative endodontic procedures.

Objective:

- > To differentiate tissue engineering, regeneration and repair;
- > To understand how stem cells and scaffolds can be used for pulp regeneration;
- > To consider and envision biology-based treatment strategies as alternatives to conventional root canal treatment.

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09.45 – 10.30 Disinfection in regenerative endodontic procedures



Anibal Diogenes

Abstract:

The endodontic management of permanent immature teeth is fraught with challenges. Although treatment modalities for vital pulp therapy in these teeth provide long-term favorable outcomes, expectations for treatment of pulp necrosis and apical periodontitis are significantly less enthusiastic. Classically, immature teeth diagnosed with pulp necrosis have been treated with apexification or apexogenesis approaches. Unfortunately, these treatments provide little, to no benefit in promoting continued dental development. Regenerative endodontic

procedures have emerged as an important alternative in treating teeth with otherwise questionable long-term prognosis due to thin, fragile dentinal walls and lack of immune-competency. Importantly, published case reports have provided insight that outcomes may be directly impacted by aetiology, duration and intensity of inflammation, divergence in treatment protocols and possibly host immunological factors. Translational research has been crucial in providing evidence for treatment modifications regarding disinfection that aim to increase favorable outcome, while steering away from common pitfalls in previously used protocols. Thus, recent advances in disinfection for regenerative endodontic approaches will be presented and discussed in this lecture.

Aim:

To provide the biological basis for disinfection protocols and decision-making in the treatment of immature teeth with open apices.

Objective:

At the end of this lecture. Participants should be able to understand:

- > The effect of commonly used irrigants on the survival and differentiation of stem cells;
- > The relationship of the antimicrobial effects of intracanal medicaments and their long lasting effects on stem cell fate;
- > The main components of a contemporary regenerative endodontic procedure, and how to perform these procedures;
- > What are the expected outcomes of these procedures.

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10.30 – 11.00 COFFEE BREAK

11.00 – 11.45 Dento-alveolar Trauma - Regeneration, Repair and Replacement



Dr Christine Berthold

Abstract:

Dento-alveolar trauma can cause reversible or irreversible damage to the involved tooth structure and surrounding tissues. One important predictor for long-term tooth survival after dento-alveolar trauma is the post-traumatic status of the pulp and the PDL-components. Especially in the young and growing patient, preservation of the injured teeth with a vital PDL as well as aiming for pulp survival or supporting revascularization or revitalization is of utmost important to reduce post-traumatic complications.

Aim:

Based on interesting clinical cases, the different pulpal conditions, found after dento-alveolar trauma, will be discussed including treatment approaches, biological background and advantages/ disadvantages of the various techniques.

Objective:

To introduce the HEPAG system for analyzing the status of teeth after dento-alveolar trauma;

- > To discuss different post-traumatic pulpal conditions, based on clinical cases;
- > To discuss different treatment options (vital pulp therapy, apexification/barrier techniques, revascularization, revitalization) and their biological background as well as their advantages and disadvantages, based on clinical cases.

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11.45 – 12.30 Dental pulp - regeneration or repair



Dr Stéphane Simon

Abstract:

Endodontics in the past two decades has been characterized by the evolution of technologies and devices for disinfection and filling of the root canal system. Evolving with the potential for a paradigm shift, is the concept of connective/pulp tissue regeneration within the root canal.

With current tissue engineering concepts, vital pulp regeneration in vitro is already feasible with stem cell-based techniques or with cell homing concepts. With these approaches expected to develop and evolve, the orientation is likely to be more pharmacological and biological, and the procedures less invasive. Thus, in the endodontics of the future, these approaches are expected to complement the current treatment techniques.

A true translational approach bridging basic science and clinic is essential to understanding why and how endodontics needs to evolve. The aim of this lecture is to describe perspectives in modern endodontics and to discuss the objectives we wish to reach in the near future.

Aim:

The aim of this lecture is to discuss the clinical results of regenerative endodontics based on (1) a personal collection of treated cases with a minimum of a one year follow up, (2) relevant clinical literature, (3) a scientific background.

Objective:

- > to understand the healing process involved into root canal revascularization;
- > to discuss the nature of the regenerated tissue after root canal revascularization procedures;
- > to get a translationnal discussion between clinical results and bench observations;
- > to better understand the clinical objectives of regenerative procedures;
- > to better state the clinical indication of regenerative treatments.

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12.30 – 13.15 Irrigation and scaffold tendencies in regenerative endodontics,

Myth or reality?



Dr Carmen Bonilla

Abstract:

Since 1961 when the Endodontic Regenerative concept started, the specialty has been trying to develop different protocols with many irrigant solutions, intracanal medicaments, scaffolds, etc. Unfortunately endodontic pulp tissue engineering is still a challenge for Endodontists, however, all the new research is very promising regarding irrigation and technology to deliver more efficient irrigation into the root canal system, such as nanoparticles and photo activated disinfection.

Aim:

This presentation will review the current status on research and clinical application for antimicrobial disinfection on regenerative pulp treatment, and discuss as a clinician what is the reality and myth of the current outcomes on regenerative endodontic therapy and present some clinical cases with different outcomes.

Objective:

- > To review the current status on research in irrigation for regenerative endodontic;
- > To describe the current irrigations protocols on regenerative endodontic treatments;
- > To discuss the new technology that can be applied to regenerative endodontic treatment.

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13.15 - 15.00 LUNCH

14.00 - 15.00 Poster Presentation Exhibition Area General Endodontic Posters / Room 129 Clinical Posters / Rooms 130, 131, 132 Original Scientific Posters

Trade Exhibition Open

15.00 – 15.45 The effect of endodontic irrigants and their fluid dynamics on biofilm removal during root canal irrigation explained by the visco-elastic properties of the biofilm



Luc van der Sluis

Abstract:

Apical periodontitis (AP) (prevalence around 60-70%) is caused by the specific reaction of the host to an oral biofilm. The biofilm can be considered as a visco-elastic hydrogel structured by a self produced matrix of extracellular polymeric substance (EPS), providing the biofilm its visco-elastic properties, which can be regarded as an effective survival mechanism. These visco-elastic properties determine the mechanical and chemical removal of biofilm. We need to disrupt this extracellular matrix to attack the microorganisms, the biofilm

dictates the efficacy of our treatment procedures and healing of AP.

Complete removal of biofilm from the root canal is impossible mainly because of the complicated root canal anatomy, the strong biofilm attachment to a porous substrate (dentine), the stratification of the biofilm and the typical visco-elastic properties of the biofilm. Therefore, chemical combined with mechanical action is important.

There is little knowledge on mechanical or chemical biofilm removal from the root canal because we do not have reliable models to study this phenomenon. During this lecture the visco-elastic behavior of the biofilm will be explained. Furthermore, the effect of the chemical and mechanical interaction of NaOCl, EDTA and Chlorhexidine on the biofilm matrix will be discussed.

Aim:

To explain the chemical and mechanical effect of root canal irrigation with NaOCl, EDTA and CHX on the biofilm matrix in relation to visco-elastic properties of biofilm.

Objective:

- > To explain the importance of the visco-elastic properties of biofilm;
- > To explain the effect of NaOCl, EDTA and CHX on the biofilm matrix;
- > To explain the importance of chemical and mechanical removal of biofilm from the root canal.

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15.45 – 16.30 A critical analysis of treatment outcomes associated with retention of endodontically treated teeth



Prof Ove Peters

Abstract:

Root canal treatment is an option to retain the natural dentition that has been utilized for more than a century. Favorable outcomes are frequent with modern techniques such as nickel-titanium rotary instruments, electronic apex locators and the operating microscope. It is generally held that root canal treatment has a good prognosis, but there are essentially two ways of addressing this question: what is the outcome of root canal treatment, on average, and what is the estimated outcome for a specific patient present in the office right now?

This analysis will contrast evidence from the literature over the last 15 years including existing meta-analyses; it will provide further information about treatment details as they relate to favorable and unfavorable outcomes. Finally an introduction will be given to conditional probability as a vehicle to estimate the outcomes for individual patients.

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Financial interest grants: AAE Foundation.

Affiliation/Financial Interest: Consultant with DentsplyTulsa Dental, Sonendo.

Financial/Material Support from all major suppliers

16.30 COFFEE BREAK

17.00 SESSION ENDS

SATURDAY, SEPTEMBER 19th HALL 4 (Room 118)

Oral presentations on freely chosen subjects

- 9.00** The overall assessment in periapical surgery using cone beam computed tomography and operating microscope.
*Beltes CH, Tsompanides G
- 9.22** Comparison of the degree of cleansing of surgical root-end cavities in teeth treated with plastic carrier obturators or guttapercha crosslinked core.
*Rigolone M
- 9.44** Conventional endodontic therapy combined or not combined with surgical decompression in the treatment of extensive radicular cyst.
*Melian A, Melian G, Antohi C, Salceanu M
- 10.06** Differential diagnosis and treatment of lateral lesions of endodontic origin
*Weissman A
- 10.30** COFFEE BREAK

Oral presentations on freely chosen subjects

- 11.00** Comparative study on apical leakage within different dental cements in retrograde filling techniques following apical surgical resection: MTA Proroot, MTA Angelus or Aureoseal cement vs cold burnish.
*Gallini G, Tolosa Such A
- 11.22** Efficacy of Reciproc and ProFile files at removing GuttaMaster from curved root canals
*Marfisi Nava K, Plotino G, Varela Dominguez P, Clavel Diaz T, Roig M
- 11.44** Microsonic removal of separated endodontic instruments: success rate, influencing factors and the quality of root canal filling
*Tordai B, Lempel E, Krajczár K
- 12.06** A retrospective study of the healing process in periapical lesions - seven years follow-up
*Gusiyska AZ
- 12.28** Biological behaviour of periodontal ligament fibroblasts on novel root repair materials
*Akbulut MB, Uyar P, Eldeniz AU
- 12.50** Periapical radiolucent lesions of non endodontic origin
*Tsompanides G, Beltes H, Lambrianidis T
- 13.15** LUNCH BREAK
- 14.00** Poster Presentations. Trade Exhibitions Open

Oral presentations on freely chosen subjects

- 15.00** The role of pulp diagnosis on success rate of two-visit root canal treatment : A systematic review and meta-analysis
*Yaylali IE, Kececi AD, Kaya BU
- 15.22** Cytotoxic effect of calcium hydroxide paste and chlorhexidine gel 2% on cultured rat fibroblasts
*Bajrami D, Hoxha V, Müftüoğlu S, Gorduysus O
- 15.44** Canal preparation with nickel-titanium or stainless-steel instruments without the risk of instrument fracture: preliminary observations.
*Yared G
- 16.06** The staining effects of different root canal medicaments on mature teeth and bleaching of tooth discoloration caused by medicaments.
Akkor T, Öztan Dartar M, *Yılmaz F

16.30 | COFFEE BREAK

17.00 | SESSION END

SATURDAY, SEPTEMBER 19th HALL 5 (Room 119)

Oral presentations on freely chosen subjects

- 9.00** | Standardized endodontic diagnostic terminology
*Spatafore CM
- 9.22** | The effect of hypnotherapy on success of infiltration anesthesia in maxillary teeth with irreversible pulpitis - randomized clinical trial
*Ramazani M
- 9.44** | Reduction of postoperative pain by preventive administration of analgesic drugs
*Panopoulos P
- 10.06** | From past to present, from apexification to pulp regeneration, what are these treatment limitations?
*Sadr A, Mirhosseini I, Rainbow Y
- 10.30** | COFFEE BREAK

Oral presentations on freely chosen subjects

- 11.00** | Regenerative endodontic treatment of immature teeth with apical lesion Turk T,
*Ozisk B

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11.22	Revascularization of traumatized necrotic immature teeth - Are we there yet? *Slutzky Goldberg I
11.44	Revascularization protocol using scaffold blood clot plus collagen (collacote) and emdo-gain (emd) *Herrera AF
12.06	Revascularization techniques: the point through 6 years follow-up of several cases *Ricci CR, Medioni E
12.28	Regenerative endodontics: evidence, theory and practice *Hashem AA
12.50	Regenerative pulp treatment applications: modelling the molecules' transport mechanisms in dentinal tubules *Gogos C, Passos AD, Kodonas K, Mouza AA, Paras SV, Tziafas D
13.15	LUNCH BREAK
14.00	Poster Presentations. Trade Exhibitions Open

Oral presentations on freely chosen subjects

15.00	Role of leptin in oral biology. *Martin-Gonzalez J, Sanchez-Dominguez B, Crespo Gallardo I, Segura-Egea JJ
15.22	Epigenetic modulation of dental pulp stem cells using pharmacological inhibitors: Endodontic implications *Duncan HF, Smith AJ, Fleming GP, Cooper PR
15.44	Complexity and extension of odontoblast processes in intact and damaged rodent dentine *Mahdee A, Alhelal A, Eastham J, Whitworth J, Gillespie JI
16.30	COFFEE BREAK
17.00	SESSION END



ESE 2015 GREEN MEETING

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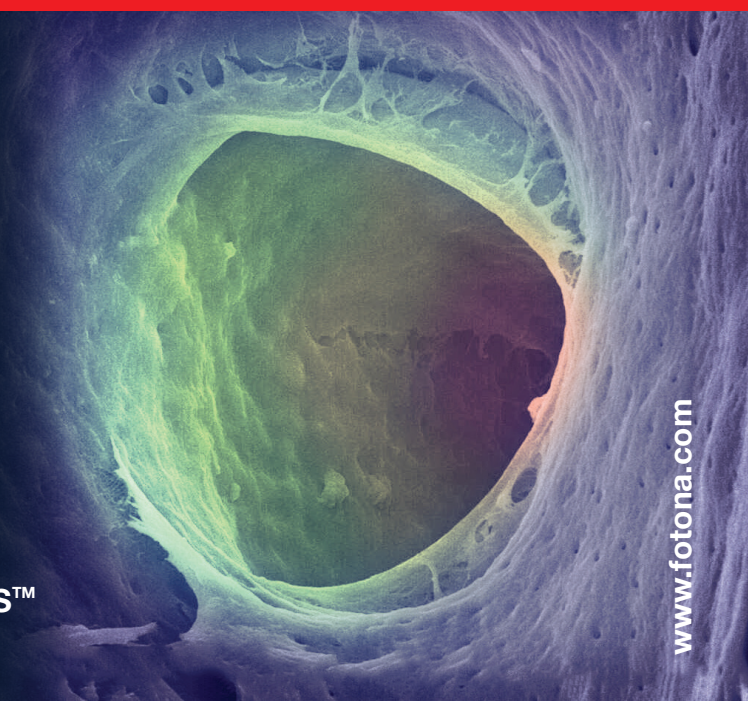
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- Friday, September 18th, 2015 - Hall 3 at 15:45
by Dr. Olivi
- Saturday, September 19th, 2015 - Hall 1 at 9:00
by Dr. DiVito and at 9:45 by Dr. Jaramillo

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The background of the slide is a solid blue color. It is decorated with numerous white, irregular, geometric shapes of various sizes and orientations, scattered across the entire surface. These shapes resemble torn paper or abstract fragments. In the upper right quadrant, there is a faint, light blue rectangular shape with a thin white border, which appears to be a placeholder for a logo or image.

OVERVIEW



OVERVIEW

Thursday 17 Sep

Hall 1 (115 - 117)

09.00 - 09.45	OPENING CEREMONY
09.45 - 10.30	Post-endodontic indirect restorations: new solutions for old issues Part 1 Roberto Spreafico
10.30 - 11.00	Coffee Break (Exhibition Area)
11.00 - 11.45	Post-endodontic indirect restorations: new solutions for old issues Part 2 Massimo Gagliani
11.45 - 12.30	Endodontic treatment and aesthetics. Mr Francesc Abella
12.30 - 13.15	How to: Retaining bone following ankylosis and tooth decoronation Barbro Malmgren
13.15 - 15.00	Lunch (Exhibition Area)
14.00	Poster Presentations
15.00 - 15.45	How to: Saving the unsavable - managing deep subgingival tooth fractures Prof Gabriel Krastl
15.45 - 16.30	How to: Treatment planning complex endodontic cases: where is the limit? Dr Lars Bergmans
16.30 - 17.00	Coffee Break (Exhibition Area)
17.00 - 17.45	How to: Using fibre reinforced composite posts Pekka Vallittu
17.45 - 18.30	How to: Gaining an adequate ferrule in compromised teeth - aesthetic and structural problems solving Maciej Zarow

Thursday 17 Sep

Hall 2 (111 - 112)

09.45 - 10.30	Correlation between pulp tests and pulp condition Dr Isabelle Portenier
10.30 - 11.00	Coffee Break (Exhibition Area)
11.00 - 11.45	Treatment of the deep carious lesion David Ricketts
11.45 - 12.30	Strategies for vital pulp protection and therapy Dimitrios Tziafas
12.30 - 13.15	Guidelines for progressive stages of deep and extreme deep caries A journey from partial caries removal to pulpotomy Lars Bjørndal
13.15 - 15.00	Lunch (Exhibition Area)
14.00	Poster Presentations
15.00 - 15.45	International Association of Dental Traumatology guidelines Prof Nestor Cohenca
15.45 - 16.30	Pulp stones - an obstacle to endodontic therapy Dr Carsten Appel
16.30 - 17.00	Coffee Break (Exhibition Area)
17.00 - 17.45	Endodontic Outcome – CBCT - a paradigm shift Dr Shanon Patel
17.45 - 18.30	Novel methods to assess the volume and content of bone defects. Elisabetta Cotti

Thursday 17 Sep

Hall 3 (113 - 114)

10.30 - 11.00	Coffee Break (Exhibition Area)
11.00 - 11.30	Sponsor session: DENTSPLY MAILLEFER 1a PROTAPER NEXT®: the next generation of rotary files Dr Wilhelm-Joseph Pertot
11.30 - 12.00	Sponsor session: DENTSPLY MAILLEFER 1b Prediction of cyclic fatigue life and pressures against the canal walls of NiTi rotary files by Virtual Modeling and Finite Element Analysis Prof Elio Berutti
12.00 - 12.30	Sponsor session: DENTSPLY MAILLEFER 1c Minimally invasive shaping? Dr Damiano Pasqualini

12.30 - 13.15	Sponsor session: MICRO-MEGA Effect of design on the behaviour of rotary root canal instruments Dr Franck Diemer
13.15 - 15.00	Lunch (Exhibition Area)
14.00	Poster Presentations
15.00 - 15.45	Sponsor session: VDW 1 Sonic irrigation versus ultrasonic irrigation for root canal disinfection Dr Klaus Neuhaus
15.45 - 16.30	Sponsor session Kerr Endodontics 1 Unlocking the root canal system Prof Philippe Sleiman
16.30 - 17.00	Coffee Break (Exhibition Area)
17.00 - 17.45	Sponsor session: FKG 1 Xpanding the NiTi technology in endodontics Dr Gilberto Debelian

Thursday 17 Sep

Hall 4 (118)

09.45 - 09.50	Education Prize Presentations Dr John Whitworth
09.50 - 10.10	Innovations in teaching biostatistics to residents in endodontics fellowship: a pilot study *Arias A, Peters OA, Broyles IL
10.10 - 10.30	Effect of curricular changes in endodontic education on root canal treatments performed by undergraduate students. *Baij A, Özok AR
10.30 - 11.00	Coffee Break (Exhibition Area)
11.00 - 11.10	Wladimir Adlivankine Prize Presentation Prof. Leo Tjäderhane
11.10 - 11.30	Evidence for nitric oxide and prostaglandin signalling in the regulation of odontoblast function in identified regions of the rodent mandibular incisor *Alhelal A, Mahdee A, Gillespie JI, Whitworth J, Eastham J
11.30 - 11.50	Guided Endodontics: Accuracy of a novel method for guided access cavity preparation and root canal location *Connert T, Zehnder MS, Weiger R, Krastl G, Kühl S
11.50 - 12.10	Comparative evaluation of the shaping ability of ProTaper Next and Protaper Universal rotary NiTi files in curved root canals of extracted human molar teeth *Ferrara G, Taschieri S, Ceci C, Corbella S, Del Fabbro M, Machtou P
12.10 - 12.30	The effect of ferrule and different reattachment designs on strengthening of the vertically fractured teeth using fiber and adhesive materials *Kurnaz S, Keçeci AD, Kaya Ureyen B

12.30 - 12.50	Canal and isthmus cleanliness of mesial roots of mandibular molars after Laser Activated Irrigation: a micro-computed tomography study. *Verstraeten J, Meire MA, Jacquet W, De Moor RJ
13.15 - 15.00	Lunch (Exhibition Area)
14.00	Poster Presentations
15.00	Clinical Abstract Presentations Prof Gianluca Gambarini
15.00 - 15.22	Microsurgical re-treatment of endodontically treated teeth with incomplete vertical root fracture: a clinical case report Taschieri S, *El Kabbaney A, Tsesis I, Corbella S, Rosen E, Del Fabbro M
15.22 - 15.44	A new technique and a new device to remove broken endodontic instruments from root canals *Widera N
15.44 - 16.06	Non-surgical root canal treatment of a maxillary lateral incisor with triple dens in dente and five canals *Amezcuca O, Cruz A, Cholico HP, Cabada A
16.06 - 16.30	Contemporary management of a perforated mandibular first molar by a multidisciplinary approach: report of a case with 7-year follow-up *Tsurumachi T, Tsurumachi N
16.30 - 17.00	Coffee Break (Exhibition Area)
17.00	Research Abstract Presentations Prof. Leo Tjäderhane
17.00 - 17.22	Functional assessment of dental pulp response to caries by T2 and ADC Mapping: An in vivo magnetic resonance feasibility study *Cankar K, Vidmar J, Nemeth L, Sersa I
17.22 - 17.44	Dose reduction and Cone-Beam Computed Tomography accuracy *Al-Nuaimi N, Patel S, Foschi F, Mannocci F
17.44 - 18.06	The effects of antibiotic pastes used in endodontic regeneration on the microhardness of dentine *Yilmaz S, Dumani A, Yoldas O
18.06 - 18.30	Tooth survival following root canal treatments in Sweden. First report from a Scandinavian Endodontic Research Collaboration network (EndoReCo) *Fransson H, Dawson VS, Frisk F, Bjørndal L, Kvist T

Thursday 17 Sep

Hall 5 (119)

09.48 - 10.10	Does root canal treatment in non-vital or retreatment cases require anesthesia? An in vivo clinical study Kfir A, Blau-Venezia N, Tsisis I, Goldberg T, *Metzger Z
10.10 - 10.30	Pain levels and typical symptoms of acute endodontic infections *Rechenberg DK, Held U, Burgstaller JM, Bosch G, Attin T, Zehnder M
10.30 - 11.00	Coffee Break (Exhibition Area)
11.00 - 11.22	The Influence of brushing motion on the cutting behavior of three reciprocating files in oval-shaped canals *Alattar S, Nehme W, Diemer F, Naaman A
11.22 - 11.44	How calcium hydroxide and culturing influence Enterococcus faecalis in mixed biofilms *van der Waal SV, Connert T, de Soet JJ, Crielaard W
11.44 - 12.06	Stress distribution in endodontic instruments during preparation of the root canal. A finite elements analysis *Kiefner P, Yao Y, Ban M
12.06 - 12.28	Nickel-titanium versus stainless steel Instruments for orthograde endodontic therapy: a systematic review and meta-analysis Del Fabbro M, *Elkabbaney A, Corbella S, E. Badr A, Taschieri S
12.28 - 12.50	A comparative study of six rotatory NiTi instruments in preserving canal curvature according to the file system and the number of uses with CBCT *Casani Herranz E, Giménez del Cura G, Juaréz Navarro I, Moreno García M, Rodríguez Arrevola N
12.50 - 13.15	Single file systems for root canal preparation: Fact or Fiction *Saber S
13.15 - 15.00	Lunch (Exhibition Area)
14.00	Poster Presentations
15.00 - 15.22	OTR Movement (Optimum Torque Reverse) in root canal shaping: research and Clinical applications. Rovai F, *Ambu E, Peducci F
15.22 - 15.44	Volumetric 3D mapping of dentinal cracks after intracanal procedures De-Deus G, Belladonna F, *Souza EM, Versiani MA
15.44 - 16.06	Impact on root dentine after identification and instrumentation of complex root canal anatomy ex-vivo *Paque F
16.06 - 16.30	Effect of ethylenediaminetetraacetic acid gel on the incidence of dentinal cracks caused by three novel nickel-titanium systems *Aksoy F, Aydin U, Karataşlioğlu E, Yildirim C

16.30 - 17.00	Coffee Break (Exhibition Area)
17.00 - 17.22	Comparative evaluation of the shaping ability of six different nickel-titanium file systems produced by different manufacturing methods. *Karataşlioğlu E, Yıldırım C
17.22 - 17.44	Assessment of different carrier-based obturation systems: micro-CT comparison with warm vertical compaction *Zogheib C
17.44 - 18.06	Moulding ability of endodontic gutta-percha *Briseño Marroquín B, Wolf T, Willershausen B
18.06 - 18.30	A micro-CT evaluation of the obturation after immediate and delayed post preparation *Piasecki L, Carneiro E, Westphalen VPD, Fariniuk L, Giampietro Brandao C, Da Silva Neto UX

Friday 18 Sep

Hall 1 (115 - 117)

09.00 - 09.45	How to: Understanding tooth anatomy Anatomical variations of posterior teeth Dr Ronald Ordinola-Zapata
09.45 - 10.30	How to: preparing minimal access cavities Carlos Boveda
10.30 - 11.00	Coffee Break (Exhibition Area)
11.00 - 11.45	How to: Determining working length and final canal preparation size Dr Ashraf Elayouti
11.45 - 12.30	How to: 3D cleaning and shaping the root canal system Prof Gianluca Plotino Co-contributor: Nicola M. Grande
12.30 - 13.15	How to: Removing root filling materials and posts Arnaldo Castellucci
13.15 - 15.00	Lunch (Exhibition Area)
14.00	Poster Presentations
15.00 - 15.45	How to: Treating teeth with iatrogenic perforations Dr Oliver Pontius
15.45 - 16.30	How to: Treating root canals containing a broken instrument Prof Mario Zuolo
16.30 - 17.00	Coffee Break (Exhibition Area)

17.00 - 17.45	How to: Finding and scouting calcified and blocked root canals Dr Vittorio Franco
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17.45 - 18.30	Root canal irrigation enhancement Prof Anil Kishen
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Friday 18 Sep

Hall 2 (111 - 112)

09.00 - 09.05	Presentation of ESE Prizes
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09.05 - 09.50	Could endodontic disease contribute to systemic disease? Dr Ashraf Fouad
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09.50 - 10.35	Endodontic disease and systemic health Prof Juan José Segura-Egea
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10.35 - 11.00	Coffee Break (Exhibition Area)
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EDUCATION SYMPOSIUM

11.00	Monitoring and assessment in clinical endodontics Dr John Whitworth
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11.15	Small group discussion What is realistic: how much experience is realistic and how can we monitor most effectively? Dr John Whitworth
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11.45	Dyad teaching - reflections from a dental perspective Training on your own or together with a fellow student: learning and cost effectiveness Dr Berit Eika
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12.00	Open discussion: Dyad teaching led by: Dr Berit Eika
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12.30	Artificial teeth for skills training in Endodontology - experiences and impact on clinical performance Dr Jörg Tchorz
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12.45	Open discussion: Experiences with artificial teeth and other simulation models led by: Dr Jörg Tchorz
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13.15 - 15.00	Lunch (Exhibition Area)
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14.00	Poster Presentation
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15.00 - 15.45	Oral infection and coronary artery disease Pirkko Pussinen
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15.45 - 16.30	Antibiotics in Endodontics Riina Richardson
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16.30 - 17.00	Coffee Break (Exhibition Area)
17.00 - 17.45	Autotransplantation of Teeth Option before Implant Mitsuhiro Tsukiboshi
17.45 - 18.30	Clinical implications of bacterial persistence after treatment Dr Jose Siqueira Jr

Friday 18 Sep

Hall 3 (113 - 114)

09.00 - 10.30	Sponsor session: VDW 2 RECIPROC single file system: 5 years later. Prof Ghassan Yared
10.30 - 11.00	Coffee Break (Exhibition Area)
11.00 - 11.45	Sponsor session Kerr Endodontics 2 TF Adaptive instrumentation Prof Gianluca Gambarini
11.45 - 12.30	Sponsor session: DENTSPLY MAILLEFER Shaping the future of endodontics Dr Julian Webber; Dr José Aranguren
12.30 - 13.15	Sponsor session: Coltène/Whaledent GmbH + Co. KG Controlled Memory anatomy driven shaping of the internal anatomy of human teeth. How more efficient, safe and predictable can it get? Antonis Chaniotis
13.15 - 15.00	Lunch (Exhibition Area)
14.00	Poster Presentation
15.00 - 15.45	Sponsor session: MICRO-MEGA 2 A Decision Making Protocol for Choosing Root Canal Shaping Instruments Liviu Steier
15.45 - 16.30	Sponsor Session: Fotona Laser endodontics, PDT, LAI, PIPS: where are the limits? Dr Giovanni Olivi
16.30 - 17.00	Coffee Break (Exhibition Area)
17.00 - 17.45	Sponsor session: FKG 2 Mechanical endodontics from initial penetration to optimal cleaning Dr Bertrand Khayat

Friday 18 Sep

Hall 4 (118)

09.00 - 09.22	The Isthmus: an area difficult to manage. *Al-Huwaizi HF
09.22 - 09.44	Micro-CT Root canal configuration and main foramina number investigation of 302 maxillary molars *Wolf TG, Paqué F, Willershausen B, Briseño Marroquín B
09.44 - 10.06	Cone-Beam Computed Tomography study of root and canal morphology of mandibular first and second molars in a Spanish population *Mora Christian J, Abella Sans F, Nuñez Avellaneda A, Roig C M
10.06 - 10.30	Accuracy of an electronic apex locator in the retreatment of teeth obturated with plastic or cross-linked gutta-percha carrier-based materials: An ex vivo study *Palopoli P, Mancini M, Conte G, Iorio L, Cianconi L
10.30 - 11.00	Coffee Break (Exhibition Area)
11.00 - 11.22	Evaluation of the effect of calcium hydroxide removed from root canal with different techniques on bonding strength of root canal sealers *Eymirli A, Uyanik O, Calt Tarhan S
11.22 - 11.44	A prospective comparative study of root canal treatment using Thermafil and Cold lateral compaction in teeth with periapical lesions *Kandemir Demirci G, Çalışkan M
11.44 - 12.06	Quaternary ammonium polyethyleneimine enriched sealer supports post treatment infection control *Abramovitz I, Weisblach D, Zaltsman N, Weiss EI, Beyth N
12.06 - 12.28	New generation intracanal pastes: antibiotics vs glycoproteins *Öztürk A
12.28 - 12.50	Pastinject: Is it a novel instrument for root canal irrigation? Kayahan MB, Pamukçu Güven E, Türk T, *Çiftçioğlu E, Küçükay I
12.50 - 13.15	Advances and new approaches in endodontic irrigation procedures *İriboz E
13.15 - 15.00	Lunch (Exhibition Area)
14.00	Poster Presentations
15.00 - 15.22	Novel method for rapid detection of remnant live bacteria in the root canal space using fluorescence amplification *Herzog D, Niazi S, Hirvonen L, Cook R, Koller G, Foschi F, Mannocci F, Festy F
15.22 - 15.44	Laser-activated irrigation using pulsed erbium lasers: principles and physical basis *Meire MA, Poelman D, Verschraege A, De Moor RJ

15.44 - 16.06	Laser-activated irrigation using pulsed erbium lasers: value added cleaning and disinfection *De Moor RJG, Meire MA
16.06 - 16.30	Laser-Assisted Endodontic Treatments: A Paradigm-Shift. *Martins MR, Martins MA, Gutknecht N
16.30 - 17.00	Coffee Break (Exhibition Area)
17.00 - 17.22	An ex-vivo study to demonstrate the effect of direct current on the efficacy of 1% sodium hypochlorite *Logani A, Chahar M, Shah N
17.22 - 17.44	A new alternative for intracanal negative pressure irrigation: The iNP needle. Characteristics and suggestion for the protocol of clinical use *Adorno CG
17.44 - 18.06	Evaluation of the antibacterial and antifungal activity of benzydamine hydrochloride and conventional antimicrobial agents: an in vitro study *Kaval ME, Yılmaz FF, Karavana SY, Güneri P
18.06 - 18.30	New perspective for endodontic irrigation: nanodroplets *Alovisi MA, Pasqualini D, Cavalli R, Cuffini AM, Mandras N, Scotti N, Berutti E

Friday 18 Sep

Hall 5 (119)

09.00 - 09.22	MTA vs gutta-percha in big apical lesion, a randomized control trial. *Krokidis AK
09.22 - 09.44	Colour alteration of MTA: literature review and discussion of actualities *Marciano MA, Guimarães BM, Andrade FB, Duarte MAH
09.44 - 10.06	Non-surgical treatment of perforating internal root resorption with mineral trioxide aggregate *Kasikci Bilgi I, Turk T, Caliskan K
10.06 - 10.30	Effects of ProRoot MTA and Micromega MTA on odontoblastic differentiation in human dental pulp stem cells *Onay EO, Yurtcu E, Terzi YK, Ungor M, Yazici AC, Oguz Y, Sahin FI
10.30 - 11.00	Coffee Break (Exhibition Area)
11.00 - 11.22	In vitro investigation of the diffusion of calcium and hydroxyl ions through dentinal tubules to the root surface from MTA and BioAggregate *Aksoy U, Saklar F, Polatoglu K

11.22 - 11.44	One-session apexification – how to decide the best material to use in each particular case? *Santos JM, Ramos JC, Palma PJ
11.44 - 12.06	Clinical outcome of direct pulp capping with MTA and an adhesive system: a retrospective analysis *Ramos JC, Vinagre A, Malva S, Costa AL, Messias A
12.06 - 12.28	Dentine extracellular matrix components liberated by calcium silicate cements and their potential role in wound healing of the dental pulp *Tomson PL, Lumley PJ, Smith AJ, Cooper PR
12.28 - 12.50	Preplacement resorption or dentoalveolar ankylosis: Different treatment options. A review *Ruiz XF, Mercadé M, Durán-Sindreu F, Roig M
12.50 - 13.15	Intra-alveolar root fracture associated to an alveolar cortical bone fracture. Thirty year follow up: clinical, periapical and CBCT findings *Zabalegui B, Gonzaga Z, Zabalegui P
13.15 - 15.00	Lunch (Exhibition Area)
14.00	Poster Presentations
15.00 - 15.22	Enhancing clinical diagnosis in endodontics using Cone Beam Computerized Tomography: Clinical cases. *Tena G, Talim J
15.22 - 15.44	Influence of cone-beam computed tomography in clinical decision-making among different specialists in Endodontics *Rodriguez Millan G, Abella Sans F, Roig CM, Bueno MR
15.44 - 16.06	Role of age & gender in relation to position of inferior alveolar nerve in indian population using CBCT *Jaju S, Jaju P, Garcha V
16.06 - 16.30	Highlighting the weakest link in endodontics cross-infection control: Propionibacterium acnes and the nosocomial endodontic infections *Niazi SA, Al Kharusi HS, Vincer L, Beighton D, Foschi F, Mannocci F
16.30 - 17.00	Coffee Break (Exhibition Area)
17.00 - 17.22	How endodontists are influenced by paradigm change in restorative dentistry *Cerny D
17.22 - 17.44	“Fill and Drill Technique” to leakage control in open-flap operative field isolation of tooth with external cervical resorption: case report *Cardinali F
17.44 - 18.06	Cold atmospheric plasma biooxidative therapy or ozone therapy: theoretical basics, mistakes and clinical application *Pavelic B
18.06 - 18.30	Competencies self-assessment in preclinical endodontic courses *Abiad R

Saturday 19 Sep

Hall 1 (115 - 117)

09.00 - 09.45	Minimally Invasive Endodontics Using Photon Induced Photoacoustic Streaming (PIPS) Dr Enrico DiVito
09.45 - 10.30	How to: Disinfecting dentine and removing biofilm Use of LAI (Laser Activation Irrigation) in root canal irrigation Dr David E Jaramillo
10.30 - 11.00	Coffee Break (Exhibition Area)
11.00 - 11.45	Limits to root canal treatment Dr Francesco Mannocci
11.45 - 12.30	Can we predict endodontic flare ups? Flare-ups in Endodontics Dr Adham A. Azim
12.30 - 13.15	Bone regeneration in endodontic surgery: the great challenge! Jean Yves Cochet
13.15 - 15.00	Lunch (Exhibition Area)
14.00	Poster Presentations
15.00 - 15.45	Problem solving in non surgical retreatment Dr Gilberto Debelian
15.45 - 16.30	Problem solving in surgical Endodontics Surgical Endodontic Retreatments: Microsurgical Resolution of the Periapical Pathology Dr Francesco Maggiore
16.30 - 17.00	Coffee Break (Exhibition Area)

Saturday 19 Sep

Hall 2 (111 - 112)

09.00 - 09.45	Dental stem cells and dental pulp tissue engineering Kerstin Galler
09.45 - 10.30	Disinfection in regenerative endodontic procedures Anibal Diogenes
10.30 - 11.00	Coffee Break (Exhibition Area)

11.00 - 11.45	Dento-alveolar Trauma - Regeneration, Repair and Replacement Dr Christine Berthold
11.45 - 12.30	Dental pulp - regeneration or repair Dr Stéphane Simon
12.30 - 13.15	Irrigation and Scaffold Tendencies in Regenerative Endodontics, Myth or Reality? Dr Carmen Bonilla
13.15 - 15.00	Lunch (Exhibition Area)
14.00	Poster Presentations
15.00 - 15.45	The effect of endodontic irrigants and their fluid dynamics on biofilm removal during root canal irrigation explained by the visco-elastic properties of the biofilm Luc van der Sluis
15.45 - 16.30	A critical analysis of treatment outcomes associated with retention of endodontically treated teeth Prof Ove Peters
16.30 - 17.00	Coffee Break (Exhibition Area)

Saturday 19 Sep

Hall 4 (118)

09.00 - 09.22	The overall assessment in periapical surgery using cone beam computed tomography and operating microscope *Beltes CH, Tsompanides G
09.22 - 09.44	Comparison of the degree of cleansing of surgical root-end cavities in teeth treated with plastic carrier obturators or guttapercha crosslinked core. *Rigolone M
09.44 - 10.06	Conventional endodontic therapy combined or not combined with surgical decompression in the treatment of extensive radicular cyst *Melian A, Melian G, Antohi C, Salceanu M
10.06 - 10.30	Differential diagnosis and treatment of lateral lesions of endodontic origin *Weissman A
10.30 - 11.00	Coffee Break (Exhibition Area)
11.00 - 11.22	Comparative study on apical leakage within different dental cements in retrograde filling techniques following apical surgical resection: MTA Proroot, MTA Angelus or Aureoseal cement vs cold burnish. *Gallini G, Tolosa Such A

11.22 - 11.44	Efficacy of Reciproc and ProFile files at removing GuttaMaster from curved root canals *Marfisi Nava K, Plotino G, Varela Dominguez P, Clavel Diaz T, Roig M
11.44 - 12.06	Microsonic removal of separated endodontic instruments: success rate, influencing factors and the quality of root canal filling *Tordai B, Lempel E, Krajczár K
12.06 - 12.28	A retrospective study of the healing process in periapical lesions - seven years follow-up *Gusiyska AZ
12.28 - 12.50	Biological behaviour of periodontal ligament fibroblasts on novel root repair materials *Akbulut MB, Uyar P, Eldeniz AU
12.50 - 13.15	Periapical radiolucent lesions of non endodontic origin *Tsompanides G, Beltes H, Lambrianidis T
13.15 - 15.00	Lunch (Exhibition Area)
14.00	Poster Presentations
15.00 - 15.22	The role of pulp diagnosis on success rate of two-visit root canal treatment : A systematic review and meta-analysis *Yaylali IE, Kececi AD, Kaya BU
15.22 - 15.44	Cytotoxic effect of calcium hydroxide paste and chlorhexidine gel 2% on cultured rat fibroblasts *Bajrami D, Hoxha V, Müftüoğlu S, Gorduysus O
15.44 - 16.06	Canal preparation with nickel-titanium or stainless-steel instruments without the risk of instrument fracture: preliminary observations *Yared G
16.06 - 16.30	The staining effects of different root canal medicaments on mature teeth and bleaching of tooth discoloration caused by medicaments Akkor T, Öztan Dartar M, *Yılmaz F
16.30 - 17.00	Coffee Break (Exhibition Area)

Saturday 19 Sep

Hall 5 (119)

09.00 - 09.22	Standardized endodontic diagnostic terminology *Spatafore CM
09.22 - 09.44	The effect of hypnotherapy on success of infiltration anesthesia in maxillary teeth with irreversible pulpitis - randomized clinical trial *Ramazani M

09.44 - 10.06	Reduction of postoperative pain by preventive administration of analgesic drugs *Panopoulos P
10.06 - 10.30	From past to present, from apexification to pulp regeneration, what are these treatment limitations? *Sadr A, Mirhosseini I, Rainbow Y
10.30 - 11.00	Coffee Break (Exhibition Area)
11.00 - 11.22	Regenerative endodontic treatment of immature teeth with apical lesion Turk T, *Ozisik B
11.22 - 11.44	Revascularization of traumatized necrotic immature teeth - Are we there yet? *Slutzky Goldberg I
11.44 - 12.06	Revascularization protocol using scaffold blood clot plus collagen (collacote) and emdogain (emd) *Herrera AF
12.06 - 12.28	Revascularization techniques: the point through 6 years follow-up of several cases *Ricci CR, Medioni E
12.28 - 12.50	Regenerative endodontics: evidence, theory and practice *Hashem AA
12.50 - 13.15	Regenerative pulp treatment applications: modelling the molecules' transport mechanisms in dentinal tubules *Gogos C, Passos AD, Kodonas K, Mouza AA, Paras SV, Tziafas D
13.15 - 15.00	Lunch (Exhibition Area)
14.00	Poster Presentations
15.00 - 15.22	Role of leptin in oral biology *Martin-Gonzalez J, Sanchez-Dominguez B, Crespo Gallardo I, Segura-Egea JJ
15.22 - 15.44	Epigenetic modulation of dental pulp stem cells using pharmacological inhibitors: Endodontic implications *Duncan HF, Smith AJ, Fleming GP, Cooper PR
15.44 - 16.06	Complexity and extension of odontoblast processes in intact and damaged rodent dentine *Mahdee A, Alhelal A, Eastham J, Whitworth J, Gillespie JI
16.30 - 17.00	Coffee Break (Exhibition Area)



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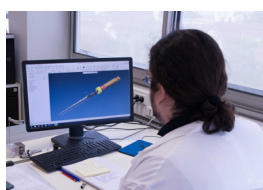
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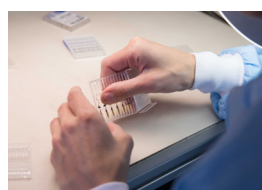
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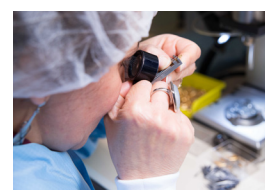
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> Innovation at the heart of the company

MICRO-MEGA®'s history shows that the company has constantly attached great importance to innovation, always aiming at providing high-technology product solutions, which meet the expectations of dental surgeons worldwide.

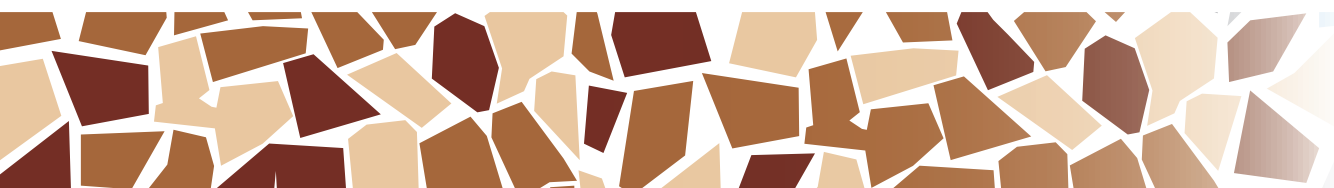
> Humanity: a local company

Proximity to customers is crucial for MICRO-MEGA®, and the company wishes to permanently provide advice to dentists and dental professionals in hospitals, universities...





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EXHIBITION AREA

MAIN ENTRANCE



16

1	93
2	94

68	65
69	
70	67

106
50

Coffe Area

24

Coffe Area

Emergency Exit Only



75	71
76	
77	
78	74

54



Internet wifi is available on the Exhibition Area

30	27
31	28
32	29

3	95
4	
5	
6	
7	
8	
9	
10	102

37	33
38	34
39	35
49	36

Coffe Area

POSTER BOARD AREA

General Endodontic Posters
Thursday 17 September
GE1 - GE79

Friday 18 September
GE80 - GE155

Saturday 19 September
GE156 - GE225

46
47
48

42	41	40
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11	103

45		
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Emergency Exit Only



LUNCH AREA

Exhibitors

Stand	Company	
16	MICRO-MEGA	
24	DENTSPLY MAILLEFER	
30, 27, 31	VDW GmbH	
28	Vista Dental Products	
32	Global Surgical Corporation	
29	NEOLIX SAS	
37,38,33	Kerr Endodontics	
34	Laschal Surgical Instruments, Inc.	
39	CJ-Optik GmbH & Co. KG	
35	Produits Dentaires SA	 Produits Dentaires SA Vevey . Switzerland
49,36	FKG Dentaire SA	
40,41	Coltène/Whaledent GmbH + Co. KG	
42	Carl Zeiss Meditec AG	
46	Zeiss Meditec Iberia	

47	Komet Gebr. Brasseler GmbH & Co. KG	
48	Casa SCHMIDT	
45	KOHLER Medizintechnik GmbH & Co. KG	
1	Sanctuary Health Sdn Bhd	
93	Sanhigia S.L.	
2	Hartzell by DenMat	
94	Quintessence Publishing	
3	MEDIDENT ITALIA	
95	WAM	
4	Sendoline AB	
5,6	Acteon	
7	Planmeca Oy	
8	Acadental	
10	B&L Biotech, Inc	
102	Endovations	
11, 103	Fotona	
68	MANI, INC.	
65	Sometech Inc.	

69 Septodont Holding



70 J Morita Europe GmbH



67 Quality Endodontic Distributors Limited



75,76 Carestream Health Spain



77 MARUCHI



78 Spanish Association of Endodontology (AEDE)



74 ADIN IBÉRICA



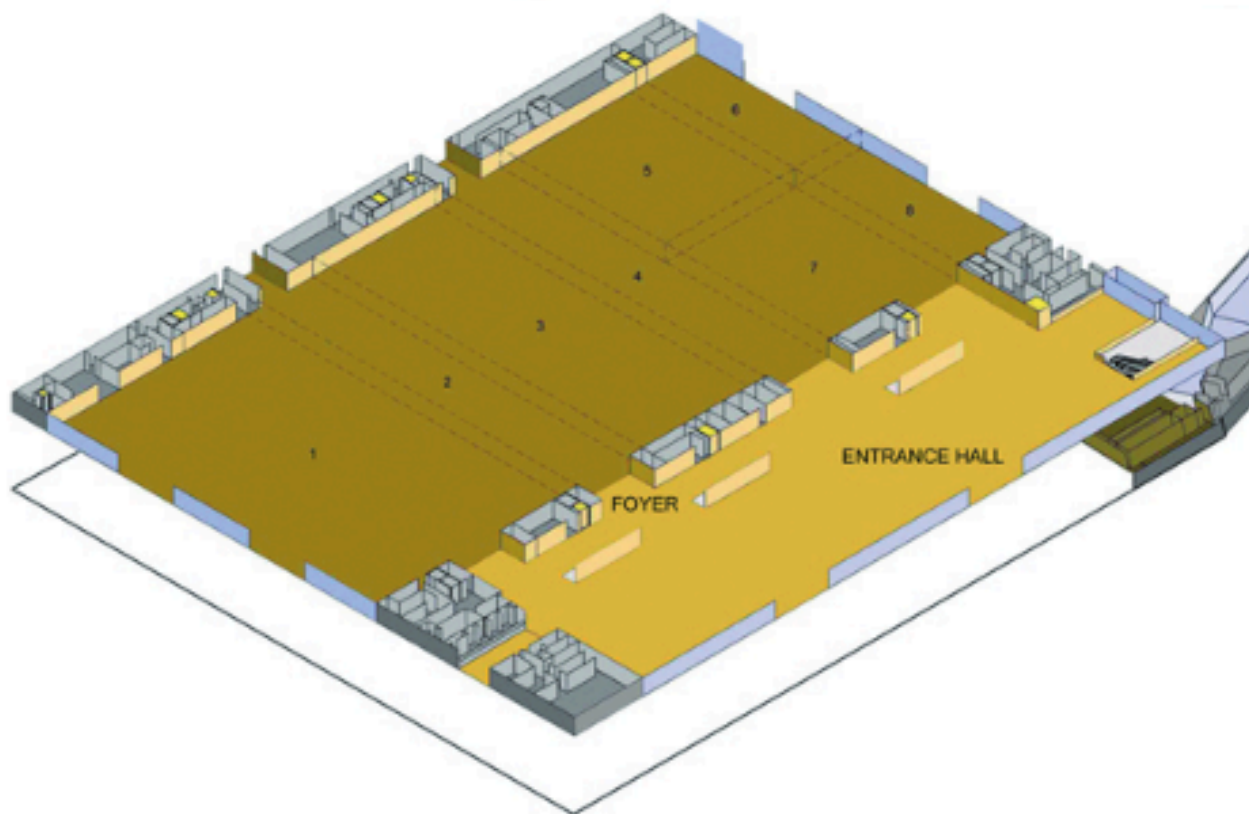
71 IFEA / SOUTH AFRICAN SOCIETY OF ENDODONTICS & AESTHETIC

9 ESE Brussels 2017



CONVENTION CENTER

Floor P0

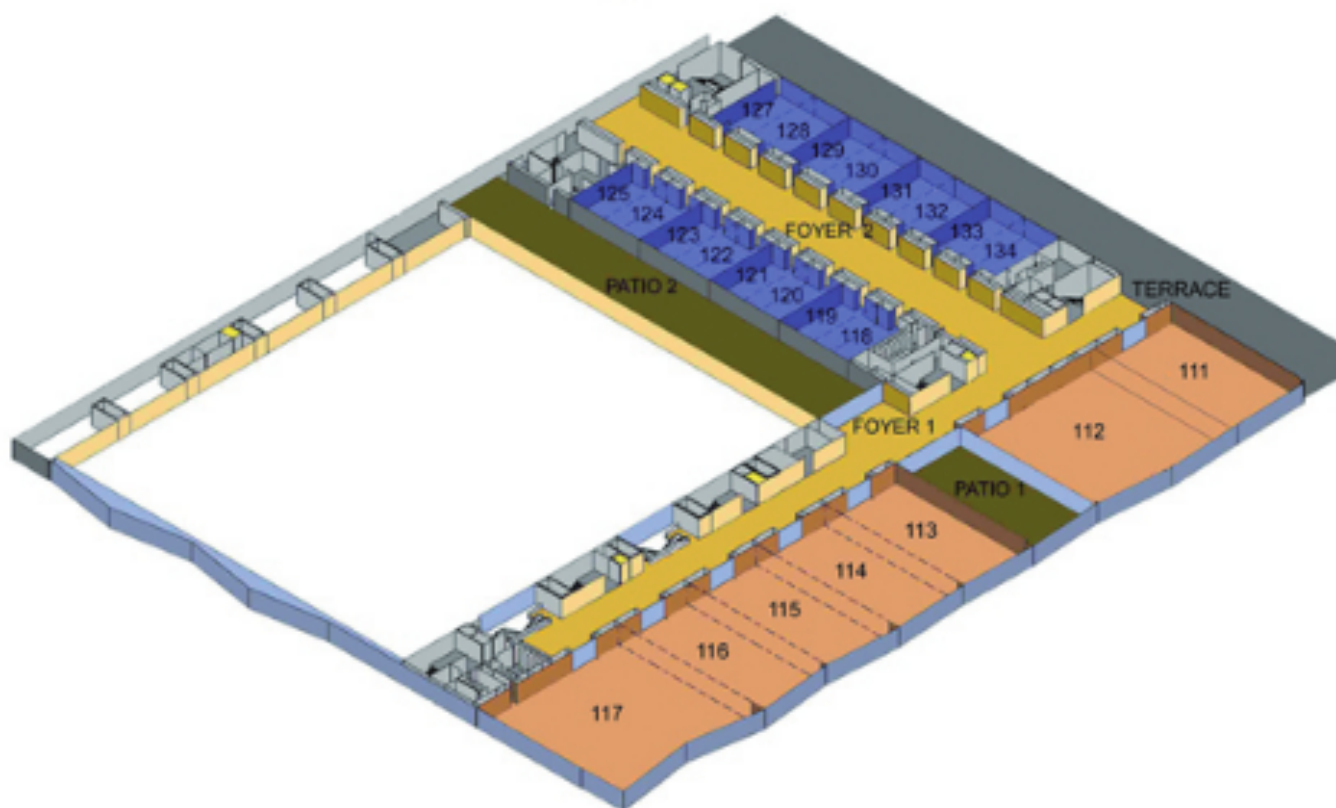


Entrance Hall
Registration
Accommodation Information
Tourism Information

Area 2 & 3
Exhibition
Wifi
Coffee Break
Lunch
General Endodontic Posters
Welcome reception (16th)

VIP Room (M1)
Certified Members Lunch

Floor P1



Room 127 - 128
Postgraduate student lunch

Room 132, 131, 130
Original Scientific Posters

Room 129
Clinical Posters

Room 121
DENTSPLY MAILLEFER ROOM

Room 115 – 117
Hall 1

Room 111 – 112
Hall 2

Room 113 – 114
Hall 3

Room 118
Hall 4

Room 119
Hall 5

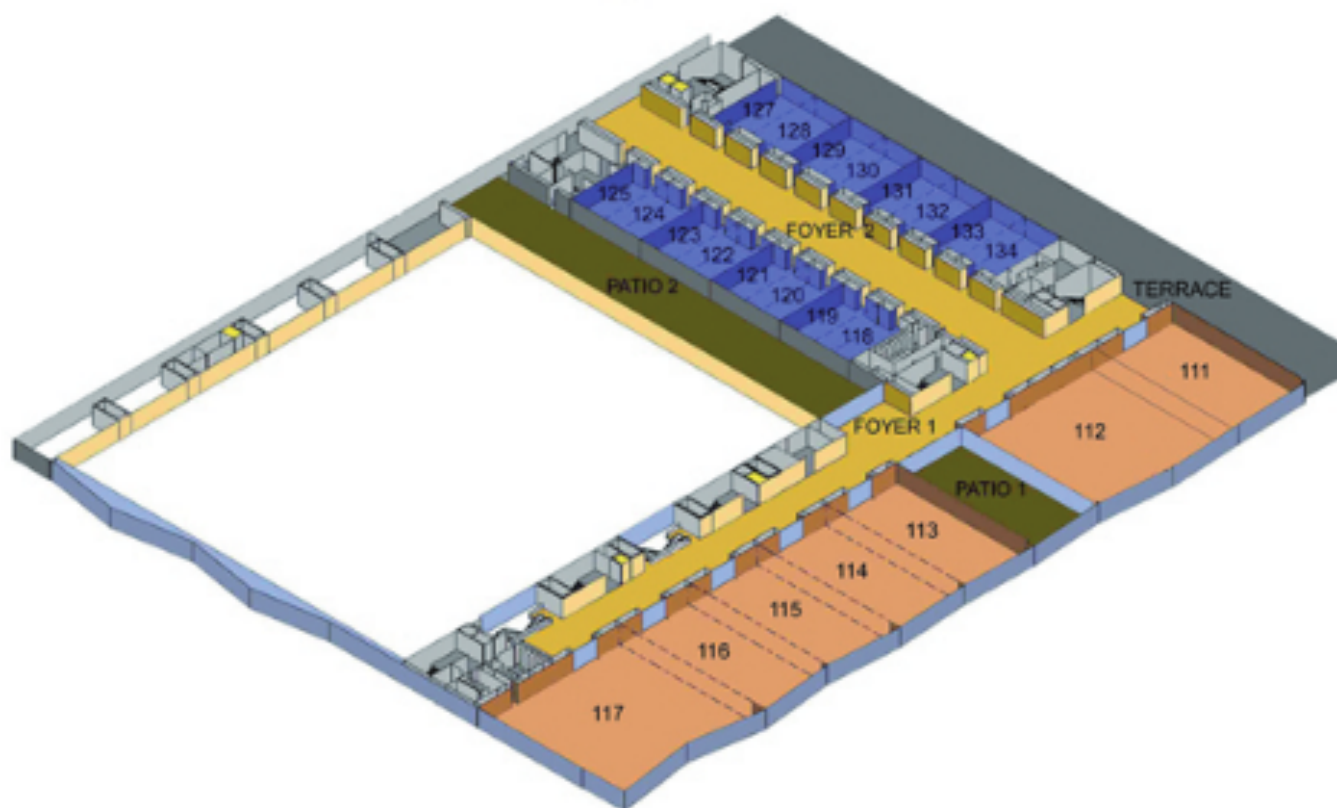
Room 124
Preview Room

Room 122
Invited Speakers and Sponsor
Speakers Room

Room 123
ESE General Assembly
IFEA Annual Assembly

Room 120
AEDE Assembly

Floor P1 (Pre-congress Courses) 16th September.



Room 118
Hall 4. ESE – CBCT

Room 127
Acteon

Room 125
Carestream Dental

Room 133
Coltène Whaledent

Room 128
FKG

Room 130
MICRO-MEGA

Room 129
Kerr Endodontics

Room 121
DENTSPLY MAILLEFER

112

[illegible]

This image shows a full page of blank handwriting practice paper. It features 20 evenly spaced, horizontal blue lines running across the entire width of the page. The background is a solid off-white color, providing a clean surface for writing practice. There are no margins, text, or other markings present.

[illegible]

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

[illegible]

[illegible]

Barcelona 2015

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Barcelona**2015**
September, 16-19