Space management and interception of malocclusion in the developing dentition

18th - 20th April 2013
Limassol, Cyprus

www.eapd-cyprus2013.eu
Space management and interception of malocclusion in the developing dentition

18th - 20th April 2013
Limassol, Cyprus

PROGRAMME & ABSTRACTS BOOK

www.eapd-cyprus2013.eu
Dear Friends and EAPD family

It is my great pleasure to welcome you all to the wonderful island of Cyprus, where natural beauty, ancient history and science are all due to come together in April for our meeting. The interim seminars are extremely important events for the EAPD. Through the Interim seminars the EAPD invites opinion leaders in a particular field and through their expertise and the participation of moderators and delegates, guidelines are developed. This has been an extremely successful format and we are very grateful to all the experts, and participants who make this possible. The theme of our meeting this year is “interceptive orthodontics” and I am sure it will be an extremely fruitful seminar and we will all learn a great deal about this important subject and the role of Paediatric Dentists in management of the growth and development and malocclusion in a growing child.

I would like to extend my sincere thanks to the Cyprus Society of Paediatric Dentistry, Maria Spyridonos Loizidou and Nick Lygidakis, for organising this event very competently and I am sure they will extend the traditional warm and typical Cypriot hospitality to you all when you are in Cyprus. I am also grateful to all the board members who work tirelessly and selflessly for all of us. The dedication of the board and all the council members has made the Academy reach the heights it has in its relatively short existence and I am sure the EAPD will always make a significant contribution to improving the oral health and wellbeing of children in Europe and all over the world.

I am sure we will not only enjoy the lectures, and the workshops at this meeting but also the wonderful social events that are planned by the local organisers for this meeting.

Look forward to seeing you all in Cyprus

Best wishes

Monty Duggal
President EAPD
Dear friends and colleagues,

It is my great pleasure to welcome you all to our lovely island. The past couple of weeks have been really difficult for Cyprus due to the current economic situation. Despite the difficulties we have worked hard to deliver a high quality seminar and workshop and have prepared a wonderful social programme reflecting the well-known Cypriot Hospitality. The EAPD Board and Nick Lygidakis have been all the way by our side, supporting us in all means and I would like to express my sincere gratitude for their continuous support. I am also grateful to my colleagues, a small group of Cypriot Paediatric Dentists, the Cyprus Society of Paediatric Dentistry (CSPD) who have worked really hard in order to organise this event in our best possible way.

The dawn of a NEW ERA:
- The seminar and workshop has been extended to 1.5 full days, combining lectures and workshops
- Introducing for the first time the Interim Seminar Poster Award
- Introducing for the first time the Live Streaming service
- For the first time an EAPD event has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME) and was granted 9 European CME credits

I am really proud that the CSPD has been a part of this New Era and I am very thankful to the Board and Council for giving us this opportunity of organising such an event.

I hope that this will be a memorable journey for you, both scientifically and socially.

Look forward to seeing you all in April, 2013

Maria Spyridonos Loizidou
Chair of the organising committee

Dear friends and colleagues,

It is my pleasure to welcome you at the 8th Interim Seminar & Workshop of the European Academy of Paediatric Dentistry, in my hometown, the coastal town of Limassol. Our newly established society worked hard with plenty of enthusiasm, to deliver the best results in both the scientific and the cultural program.

An innovation has occurred in our meeting since the scientific program has been enhanced with the Saturday morning lectures in order to be more attractive to the delegates. The hotel is one of the best 5 star hotels of the island, right on the beach, luxurious and beautiful, located literally only few meters from the ancient kingdom of Amathus town of which the ruins you can visit by walking.

Emphasis was given on the selection of the trips around the island to be historically and culturally interesting and we are sure you will love them.

So, please pack your suitcase with your spring clothes and come to meet the Mediterranean warmth and hospitality. We'll all be waiting for you!

Look forward to seeing you in our home,

Niki Kokkinos DDS
President of the Cyprus Society of Paediatric Dentistry
<table>
<thead>
<tr>
<th>CONTENTS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Committes &amp; Board of the EAPD</td>
<td>7</td>
</tr>
<tr>
<td>Programme at a Glance</td>
<td>8 - 9</td>
</tr>
<tr>
<td>Analytical Scientific Programme</td>
<td>10 - 13</td>
</tr>
<tr>
<td>Invited Speakers</td>
<td>14-15</td>
</tr>
<tr>
<td>List of Poster Presentations</td>
<td>18-19</td>
</tr>
<tr>
<td>Poster Abstracts</td>
<td>20 - 41</td>
</tr>
<tr>
<td>Exhibition Layout &amp; Exhibitors</td>
<td>44</td>
</tr>
<tr>
<td>Conference Rooms</td>
<td>45</td>
</tr>
<tr>
<td>Social Programme</td>
<td>46 - 48</td>
</tr>
<tr>
<td>Sponsors</td>
<td>50</td>
</tr>
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COMMITTEES

Organising Committee

<table>
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<tr>
<td>Chair</td>
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<td>Niki Kokkinos</td>
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<td>Maria Pantelidou</td>
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<td>Ioanna Orphanou</td>
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<td>Costas Onisiphorou</td>
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<td>Stella Papagapiou</td>
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<td>Despo Soteriou</td>
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Scientific Committee

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<tr>
<td>President</td>
<td>Paddy FLEMING (Ireland) President Elect</td>
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<tr>
<td>Members</td>
<td>Norbert KRÄMER (Germany) Past President</td>
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<td></td>
<td>Jack TOUMBA (UK) editor</td>
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Clinical Affairs Committee

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<td>Members</td>
<td>F. Wong (UK)</td>
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<td>J. Kuhnisch (Germany)</td>
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<td></td>
<td>J. Amar (Switzerland)</td>
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<td>S. Gizani (Greece)</td>
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<td>E. Conolly (Ireland)</td>
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BOARD OF THE EAPD

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<tr>
<th>Role</th>
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<tr>
<td>President</td>
<td>Monty DUGGAL (UK)</td>
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<tr>
<td>President Elect</td>
<td>Paddy FLEMING (Ireland)</td>
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<td>Past President</td>
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<tr>
<td>Secretary</td>
<td>Elias BERDUSES (Greece)</td>
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<tr>
<td>Treasurer</td>
<td>Teresa LEISEBACH (Switzerland)</td>
</tr>
<tr>
<td>Journal Editor</td>
<td>Jack TOUMBA (UK)</td>
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<tr>
<td>Web Editor</td>
<td>Elias BERDUSES (Greece)</td>
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The Conference Secretariat
Tel. +357 22 713780
Fax: +357 22 869744
E-mail: synedrio@topkinisis.com
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<tr>
<th>Time</th>
<th>Event</th>
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<td>15.30 - 18.30</td>
<td>Coffee &amp; Tea available</td>
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<td>19:30</td>
<td>Informal Dinner for the EAPD Board</td>
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<td>8.00 - 12.30</td>
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<td>12.30 - 13.30</td>
<td>Coffee &amp; Tea available</td>
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<td>13.30 - 14.30</td>
<td>Light Lunch on the terrace for the EAPD Board</td>
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<tr>
<td>15.30 - 18.30</td>
<td>Coffee &amp; Tea available</td>
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<tr>
<td>8.00 - 17.00</td>
<td>Registration and information desk (Foyer)</td>
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<tr>
<td>9.00 - 17.00</td>
<td>Exhibition (Ares Room)</td>
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<tr>
<td>9.00 - 17.00</td>
<td>Poster Viewing (Aphrodite Room &amp; Poseidon Room)</td>
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<tr>
<td>08.30 - 08.45</td>
<td>Welcome (Demetra Room)</td>
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<td>08.45 - 09.45</td>
<td>Lecture 1 (Demetra Room)</td>
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<td>09.45 - 10.00</td>
<td>Open Discussion-Questions</td>
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<td>10.00 - 10.30</td>
<td>Coffee break at the exhibition area &amp; Poster viewing</td>
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<td>10.30 - 11.30</td>
<td>Lecture 2 (Demetra Room)</td>
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<tr>
<td>11.30 - 11.45</td>
<td>Open Discussion-Questions</td>
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<tr>
<td>11.45 - 12.45</td>
<td>Lecture 3 (Demetra Room)</td>
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<td>12.45 - 13.00</td>
<td>Open Discussion-Questions</td>
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<tr>
<td>13.00 - 14.00</td>
<td>Buffet Lunch at the restaurant</td>
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<td>14.00 - 15.00</td>
<td>Lecture 4 (Demetra Room)</td>
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<td>14.00 - 15.30</td>
<td>Workshops</td>
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<tr>
<td>15.00 - 15.30</td>
<td>Open Discussion-Questions</td>
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*Workshop 1 (Athenaeum Room No1)
Workshop 2 (Athenaeum Room No2)
Workshop 3 (Athenaeum Room No3)
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>15.30 - 16.00</td>
<td>Coffee Break at the exhibition area (Ares Room)</td>
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<td>15.30 - 16.00</td>
<td>Coffees &amp; Tea served in each room</td>
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<td>16.00 - 17.00</td>
<td>Lecture 5 (Demetra Room)</td>
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<tr>
<td>15.30 - 16.00</td>
<td>Workshops</td>
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<td>16.00 - 17.30</td>
<td>Workshops</td>
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<td></td>
<td>Dr Nick Lygidakis, Athens, Greece</td>
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<td></td>
<td>Workshop 1 (Athenaeum Room No 1)</td>
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<td>Workshop 2 (Athenaeum Room No 2)</td>
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<td>Workshop 3 (Athenaeum Room No 3)</td>
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<tr>
<td>17.00 - 17.30</td>
<td>Open Discussion-Questions</td>
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<tr>
<td>20.00</td>
<td>Gala Dinner</td>
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**Saturday 20th April 2013**

- **Chair:** Professor Toumba, Dr Berdouses
- **09.00 - 9.30** Oral Presentation of Selected Posters (Demetra Room)
- **9.30 - 10.15** Lecture 6 (Demetra Room)
  - Professor Monty Duggal, Leeds, UK
- **10.15 - 10.30** Open discussion
- **10.30 - 11.00** Coffee Break at the exhibition area (Ares Room)
- **11.00 - 12.30** Lecture 7 (Demetra Room)
  - Presentation of the guidelines (Draft Papers)
  - Interim Seminar Award
  - Upcoming EAPD Event: 12th Congress of the European Academy of Paediatric Dentistry, 5-8 June 2014, Sopot, Poland
## ANALYTICAL SCIENTIFIC PROGRAMME

### Friday 19th April 2013

#### MORNING SESSION

<table>
<thead>
<tr>
<th>Time</th>
<th>Lecture</th>
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<tbody>
<tr>
<td>08.45 - 09.45</td>
<td>Lecture 1 (Demetra Room)</td>
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<tr>
<td><strong>Interceptive and preventive orthodontics in the developing dentition</strong>&lt;br&gt;<strong>Myofunctional and Myoskeletal problems. Diagnosis and management</strong>&lt;br&gt;<em>Keynote Speaker: Jörg Lisson, Prof. Dr. Homburg, Germany</em>&lt;br&gt;- Minimizing any abnormal muscular effect on dental and skeletal growth and development&lt;br&gt;- Management of Habits&lt;br&gt;- Non nutritive sucking&lt;br&gt;- Tongue thrusting&lt;br&gt;- Abnormal tongue position&lt;br&gt;- Abnormal swallowing pattern&lt;br&gt;- Mouth Breathing&lt;br&gt;- Bruxism</td>
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<tr>
<td>10.30 - 11.30</td>
<td>Lecture 2 (Demetra Room)</td>
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<tr>
<td><strong>Interceptive and preventive orthodontics in the developing dentition</strong>&lt;br&gt;<strong>Intra arch problems. Diagnosis and management</strong>&lt;br&gt;<em>Keynote Speaker: Vittorio Cacciafesta, DDS, MSc, PhD, Milano, Italy</em>&lt;br&gt;- Crossbites&lt;br&gt;- Dental Crowding&lt;br&gt;- Tooth size discrepancies&lt;br&gt;- Early loss of primary and permanent teeth –space maintenance and space regaining&lt;br&gt;- Ankylosed primary and permanent molars&lt;br&gt;- Impacted and ectopically positioned teeth (canines and 1st permanent molars)</td>
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<tr>
<td>11.45 - 12.45</td>
<td>Lecture 3 (Demetra Room)</td>
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<tr>
<td><strong>Interceptive and preventive orthodontics in the developing dentition</strong>&lt;br&gt;<strong>Inter arch problems. Diagnosis and management</strong>&lt;br&gt;<em>Keynote Speaker: James Spencer, BDS, MSc, FDS (Orth) RCS (Eng), M.Orth RCS (Eng), Leeds, UK</em>&lt;br&gt;- Openbite&lt;br&gt;- Overjet&lt;br&gt;- Overbite&lt;br&gt;- Class II&lt;br&gt;- Class III</td>
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AFTERNOON SESSION

WORKSHOPS
THREE WORKSHOPS WILL TAKE PLACE, ONE ON EACH KEYNOTE PRESENTATION. EACH KEYNOTE SPEAKER WILL LEAD THE WORKSHOP TOGETHER WITH THE MODERATORS TO DEVELOP THE DRAFT PAPERS OF THE GUIDELINES IN THE AREA OF HIS PRESENTATION. THE REPRESENTATIVES OF THE EUROPEAN COUNTRIES WILL DISCUSS AT EACH WORKSHOP THE CURRENT EVIDENCE AND PRODUCE THE DRAFTS OF THE GUIDELINES BASED ON THEIR FINDINGS.

Friday 19th April 2013

<table>
<thead>
<tr>
<th>14.00 - 17.30</th>
<th>Workshop 1 (Athenaeum Room No 1)</th>
</tr>
</thead>
</table>

Interceptive and preventive orthodontics in the developing dentition
Myofunctional and Myoskeletal problems. Diagnosis and management

**Co-ordinators**
**Keynote Speaker:** Jörg Lisson, Prof. Dr. Homburg, Germany
**Moderator (CAC):** Juliana Amar (Switzerland)
**Authors/Prepared the working paper:** Professor Makou, Koletsi & Pandis (Athens, Greece)

<table>
<thead>
<tr>
<th>Names Of The Representatives/Experts</th>
<th>Country</th>
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<tbody>
<tr>
<td>1. Jeroen Vandenbulcke</td>
<td>Belgium</td>
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<tr>
<td>2. Prof. Domagoj Glavina</td>
<td>Croatia</td>
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<td>3. Theodosis Kallenos</td>
<td>Cyprus</td>
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<td>4. Maria Spyridonos Loizidou</td>
<td>Cyprus</td>
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<tr>
<td>5. Assist. Prof. Vuokko Anttonen</td>
<td>Finland</td>
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<tr>
<td>6. Prof. Norbert Krämer</td>
<td>Germany</td>
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<tr>
<td>7. Vierrou Anna-Maria</td>
<td>Greece</td>
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<tr>
<td>8. Prof. Alessandra Majorana</td>
<td>Italy</td>
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<tr>
<td>9. Prof. Anne Skare</td>
<td>Norway</td>
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<tr>
<td>10. Assist. Prof. Katarzyna Emerich</td>
<td>Poland</td>
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<td>11. Assoc. Prof. Martina Drevensek</td>
<td>Slovenia</td>
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<tr>
<td>12. Richard Steffen</td>
<td>Switzerland</td>
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<tr>
<td>13. Dr. Thayalan Kandiah</td>
<td>UK</td>
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<tr>
<td>14. Prof. Rodica Luca</td>
<td>Romania</td>
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Interceptive and preventive orthodontics in the developing dentition
Intra arch problems. Diagnosis and management

Co-ordinators
Keynote Speaker: Vittorio Cacciafesta, DDS, MSc, PhD, Milano, Italy
Moderator (CAC): Sotiria Gizani (Greece)

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<tr>
<td>1. Rita Cauwels</td>
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<td>2. Professor Ivana Cukovic Bagic</td>
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<td>3. Maria Pantelidou</td>
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<td>4. Assoc. Prof. Romana Ivancakova</td>
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<td>5. Dorte Haubek</td>
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<td>9. Rok Kosem</td>
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<td>10. Assoc. Prof. Dr Nenad Nedeljkovic</td>
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<td>11. Eri Stratigaki</td>
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<td>12. Prof. Figen Seymen</td>
<td>Turkey</td>
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<td>13. Dr. Karin Ziskind</td>
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14.00-17.30 Workshop 2 (Athenaeum Room No 1)

Interceptive and preventive orthodontics in the developing dentition
Intra arch problems. Diagnosis and management

Co-ordinators
Keynote Speaker: James Spencer, BDS, MSc, FDS (Orth) RCS (Eng), M.Orth RCS (Eng), Leeds, UK
Moderator (CAC): Ferranti Wong (UK)

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<td>5. Dr. Wanda Urbanova</td>
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<td>7. Dr. Arapostathis Konstantinos</td>
<td>Greece</td>
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<tr>
<td>8. Michael Brosnan</td>
<td>Ireland</td>
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<tr>
<td>9. Dr. Patrizia Defabianis</td>
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<tr>
<td>10. Assoc. Prof. Els-Marie Andersson</td>
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<td>11. Dr Irina Minaeva</td>
<td>Russia</td>
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<td>12. Assist. Prof. Alenka Pavlic</td>
<td>Slovenia</td>
</tr>
<tr>
<td>13. Dr Zorana Stamenkovic</td>
<td>Serbia</td>
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<tr>
<td>14. Dr. Christoph Langerweger</td>
<td>Switzerland</td>
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<tr>
<td>15. Prof. Betul Kargul</td>
<td>Turkey</td>
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## AFTERNOON SESSION

### PARALLEL PROGRAMME FOR THE PARTICIPANTS

### Orthodontic Diagnostic Tools

**Speaker:** Ebrahim Al Awadhi, BDentSc, BA, MSc, MOrth(RCSI), MOrth(RCSEng), Dublin, Ireland

- Space analysis
- Analysis of Cephalometric Head films
- Radiographic evaluation of Panoramic and other films
- The importance of a thorough diagnosis on the selection of a structured treatment plan in the developing dentition

### The great challenge: Interdisciplinary approach for the treatment of eruption discrepancies in anterior permanent teeth using orthodontic, paediatric dental and surgical techniques

**Speaker:** Nick Lygidakis, DDS, MScD, MScM, FRSM, PhD, Athens, Greece

- Differential Diagnosis in cases of eruption discrepancies. Supernumerary teeth, Odontomas, Cysts, etc
- Treatment strategies in eruption delay. How much can we wait?
- Different treatment approaches in eruption failure according to the developmental stage and the availability of anterior space.

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## MORNING SESSION

### Saturday 20th April 2013

### EAPD Interim Seminar Poster Award

This is a new scientific award to be awarded for the first time during this seminar. The authors of 6 preselected posters relevant to each of the Seminar topics will be asked to present their poster in the main hall. The EAPD Interim Seminar Poster Award (scientific award) will be given to the best presented poster.

### Traumatic luxation injuries - paediatric dental and orthodontic management

**Speaker:** Monty Duggal, BDS, MDSc, FDSRCS (Eng), PhD, Leeds, UK

- Avulsions/Intrusions/Extrusions/Luxation
- Tooth loss and space management
- Premolar transplantation

Presentation of the guidelines (draft papers) by the speakers and the moderators of each workshop
INVITED SPEAKERS

Professor Jörg Lisson
Jörg Lisson undertook his dental training at Hannover Medical School (MHH), followed by two years of training in a private practice dedicated to oral surgery. He received his orthodontic training between 1994 and 1997 at the Department of Orthodontics at Hannover Medical School, where he stayed another four years as associate professor. He is currently a Professor and Head of the Department of Orthodontics at Saarland University Hospital in Homburg/Saar.

His special interests are early interceptive orthodontics, interdisciplinary treatment of CLP patients and orthognatic surgery. Apart from publications on these topics in peer-reviewed journals, he has co-edited books on myofunctional therapy and on self-ligating brackets. He is referee in a number of national and international journals.

He is currently president of the German Dental Teacher’s Association (VHZMK) and host of the annual scientific conference of the German Orthodontic Society (DGKFO).

Dr. Vittorio Cacciafesta
Dr. Vittorio Cacciafesta received his dental training at the University of Naples “Federico II”, Italy. From July 1995 until August 1996 he was Research Fellow at the Department of Orthodontics, Humboldt-University of Berlin, Germany. From September 1996 until August 1999 he was Orthodontic Resident at the Department of Orthodontics, Royal Dental College, Aarhus University, Denmark, where he received the Specialty and Master of Science in Orthodontics. He is “Dottore di Ricerca” (Research Doctorate) in Biotechnology of Dental Materials. From 1999 to 2009 he was Assistant Clinical Professor at the Department of Orthodontics, University of Pavia, Italy. From 1999 until 2002 he was Visiting Professor at the Department of Orthodontics, Aarhus University, Denmark, and Visiting Professor at Temple University, Philadelphia, USA.

He has published over 100 refereed publications, 2 books and 5 book chapters. He is Co-Editor of “Ortodonzia Clinica”, Associate Editor of “Progress in Orthodontics”, and Referee for the following scientific journals: “American Journal of Orthodontics and Dentofacial Orthopedics”, “Angle Orthodontist”, “European Journal of Orthodontics”, “Journal of Clinical Orthodontics”, “Orthodontics and Craniofacial Research”, “Ortognatodonzia Italiana”. His main research interests are bonding materials, brackets, metallurgy, friction between brackets and wires. He has been lecturing extensively in Europe, Middle East, Asia and North and South America.

Dr James Spencer
James Spencer undertook his dental training at the University of Bristol and his Orthodontic Training at the Eastman Dental Institute in London. He is currently Consultant Orthodontists at Pinderfields General Hospital and Leeds Dental Institute. His main clinical interest lies in the area of interdisciplinary treatment including distraction osteogenesis and autologous tooth transplantation. In 2008 he was Federation of European Orthodontist Award for the best research publication in a European orthodontic journal.

He is currently Associated Dental Dean at the Yorkshire and Humber Deanery responsible for specialty training and also examines for the IMOOrth and ISFE. In his spare time he is Chairman of the British Orthodontic Conference.
INVITED SPEAKERS

Dr Ebrahim Al-Awadhi
Dr Ebrahim Al-Awadhi qualified from the Dublin Dental School and Hospital in July 1998. In 2000 he was awarded an MFD from the Royal College of Surgeons of Ireland (RCSI). He attended the Eastman Dental Institute in London where he completed his masters in orthodontics (MSC) in 2002 and a Membership of Orthodontics (MOrth) from the Royal College of Surgeons of England in 2003. He has since worked in the Regional Orthodontic Unit in St James’s Hospital and in the Dublin Dental University Hospital where he is currently a consultant and a lecturer in orthodontics. He has research interests in mini implants, anchorage reinforcement, root resorption in orthodontics and impacted canines. He is involved in teaching post and undergraduate students. He is an examiner for the MFD examination RCSI in Dublin, Kuwait, Jordan and Bahrain. In addition, he is the coordinator for the FFD exam RCSI for orthodontics.

Dr Nick A. Lygidakis
Nick A. Lygidakis is working in Athens in a private practice limited to Paediatric Dentistry, Oral Surgery and Orthodontics. He is also Consultant Paediatric Dentist in the Community Dental Center for Children in Athens and Honorary Reader in Paediatric Dentistry in the Leeds University, UK, where he teaches in the postgraduate program.

Following his Dental degree from the University of Athens in 1980 and 2 years postgraduate attachment in Paediatric Dentistry, he was further trained for 3 years in England, in the Universities of Oxford and London. He holds a Master of Science in Medicine (Genetics), a Master of Science in Dentistry (Child Dental Health), a PhD (Oral-Facial Genetics) and a Fellowship of the UK Royal Society of Medicine.

He is Former President of the Hellenic Society of Paediatric Dentistry and Former President of the European Academy of Paediatric Dentistry. In the later, being a founding member, he has served for many years in various committees and he has been involved in the organization of a number of European scientific activities. In Greece, being for many years actively involved with the Primary Dental Health Care, he has been member and Chairman of many Committees of the Ministry of Health and the Hellenic Dental Association concerning the organization of the Dental Health Services.

He has published more than 50 papers in peer reviewed scientific journals, with more than 350 citations, over 170 abstracts in Hellenic and International Congresses and 5 chapters in Books. He is referee in a number of International journals and Assistant Editor of the European Archives of Paediatric Dentistry. His research and clinical interests are in the fields of dental anomalies, special needs patients treated under general anaesthesia, trauma, fissure sealants and epidemiology and he is frequently an invited Lecturer at home and abroad on these subjects.

Professor Monty Duggal
Professor Monty Duggal obtained his dental degree in 1983 and his MDS in Paediatric Dentistry in 1986 in India. He then immigrated to the United Kingdom and obtained his FDSRCS from the Royal College of Surgeons of England and his PhD from Leeds University. He joined Leeds Dental Institute as a Junior Lecturer in 1989 and is currently a Professor and Head of Child Dental Health. He oversees a large postgraduate programme in Paediatric Dentistry which has international acclaim. Professor Duggal has published over 100 research papers in international journals. He is also the author of “Restorative Techniques in Paediatric Dentistry, which has been published in 7 languages and has sold over 12000 copies worldwide. He is also a co-author of a textbook on Dental Traumatology and has Co-Edited “Paediatric Dentistry” by Oxford. He has obtained research grants to the total value of over 7.5 million pounds. His main research interest is Cariology and Translation Research in Clinical Paediatric Dentistry, including dental traumatology and he is charge of the Trauma and Transplantation service at the Leeds Dental Institute. In his spare time he enjoys cricket, which is his second passion after Paediatric Dentistry.
<table>
<thead>
<tr>
<th>ID Number</th>
<th>Title</th>
<th>Presenter/Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Ideal and achievable treatment goals for class II division 1 malocclusion in the developing dentition</td>
<td>MUNTEAN ALEXANDRINA</td>
</tr>
<tr>
<td>P2</td>
<td>Partial primary loss of a permanent upper incisor in a young patient: Case report</td>
<td>PETROU MARINA AGATHI</td>
</tr>
<tr>
<td>P3</td>
<td>Orthodontic aspects among amateur boxers in Poland</td>
<td>EMERICH KATARYZNA</td>
</tr>
<tr>
<td>P4</td>
<td>Orthodontic Treatment of a Patient with Cleidocranial Dysplasia: Case report</td>
<td>VELOSSARIOU MARIANNA</td>
</tr>
<tr>
<td>P5</td>
<td>Late treatment of Class II/1 malocclusion using Herbst appliance: A case report</td>
<td>NEDELJKOVIC NENAD</td>
</tr>
<tr>
<td>P6</td>
<td>Fiber Reinforced Composite Loop Space Maintainer: Step by Step Clinical Procedure</td>
<td>DURMUS BASAK</td>
</tr>
<tr>
<td>P7</td>
<td>The use of diode laser for cuspid exposures: Case series report</td>
<td>VELOSSARIOU MARIANNA</td>
</tr>
<tr>
<td>P8</td>
<td>Long-term Effects of Rapid Maxillary Expansion and Protraction Headgear</td>
<td>KOTTAIT YASMIN</td>
</tr>
<tr>
<td>P9</td>
<td>Management of space loss in primary dentition</td>
<td>REZVANI YASAMAN</td>
</tr>
<tr>
<td>P10</td>
<td>Bruxism and its managements in children</td>
<td>ZARNEGARIA PARISA</td>
</tr>
<tr>
<td>P11</td>
<td>Cephalometric determination of tongue posture in mouth breathing patients</td>
<td>DRASOVEAN ANCA</td>
</tr>
<tr>
<td>P12</td>
<td>Permanent teeth emergence patterns relating to caries experience of primary teeth</td>
<td>BICA CRISTINA</td>
</tr>
<tr>
<td>P13</td>
<td>Finite element analysis for upper molar distalization</td>
<td>PACURAR MARIANA</td>
</tr>
<tr>
<td>P14</td>
<td>The attitude towards interceptive orthodontic treatment in parents of children with unsavory carious primary molars</td>
<td>CILENITEK MAJA</td>
</tr>
<tr>
<td>P15</td>
<td>Correlation between Class II and dento-alveolar trauma</td>
<td>MAJORANA ALESSANDRA</td>
</tr>
<tr>
<td>P16</td>
<td>Early diagnosis of oral habits in a group of pre-school children</td>
<td>BADEA VALENTINA ANDREEA</td>
</tr>
<tr>
<td>P17</td>
<td>Early treatment of impacted maxillary central incisors due to supernumerary teeth in paediatric dentistry: Case Series report</td>
<td>PEKEL BARHAN</td>
</tr>
<tr>
<td>P18</td>
<td>Avoidable unwanted space consequences of early loss of a lower first permanent molar: Case report</td>
<td>VINEREANU ARINA</td>
</tr>
<tr>
<td>P19</td>
<td>Compound odontoma praevia in a 10-years-old girl: Case report</td>
<td>VINEREANU ARINA</td>
</tr>
<tr>
<td>P20</td>
<td>Effective appliances to improve ectopic eruption of mandibular first molar permanent teeth: Two Cases report</td>
<td>MITSAUHATA CHIEKO</td>
</tr>
<tr>
<td>P21</td>
<td>Predication of mesio-distal crown widths of unerupted mandibular canines and premolars in two district populations</td>
<td>BHATIA SUMIT</td>
</tr>
<tr>
<td>P22</td>
<td>Anterior crossbite in children with past severe early childhood caries</td>
<td>MUNTEANU ANETA</td>
</tr>
<tr>
<td>P23</td>
<td>Efficacy of the Combination of Orthodontic Treatment and Orofacial Myofunctional Therapy</td>
<td>STAVRINIDOU SOFRONIA</td>
</tr>
<tr>
<td>P24</td>
<td>Lip competence, breathing mode and pharyngeal flora in vertical growth pattern</td>
<td>DREVENSEK SOFRONIA</td>
</tr>
<tr>
<td>P25</td>
<td>Use of removable appliances and inter-arch Class III elastics to treat mild Class III maloclusion at late mixed dentition stage: Case report</td>
<td>DIAMANTI ILIANA</td>
</tr>
<tr>
<td>P26</td>
<td>Extractions in a patient with supernumerary teeth in deciduous and mixed dentition: Case report</td>
<td>PAVLIC ALENKA</td>
</tr>
<tr>
<td>P27</td>
<td>Multidisciplinary managing of severe maxillofacial and oral trauma: Case report</td>
<td>TOMAZEVC TANJA</td>
</tr>
<tr>
<td>P28</td>
<td>Orthodontic treatment need and complexity among blind and deaf children with mixed dentition in Romania</td>
<td>MIHAI SUHANI</td>
</tr>
<tr>
<td>P29</td>
<td>Aesthetic maxillary fixed space-maintainer appliance in a child with early childhood caries: Case Report</td>
<td>AL-BATAYNEH OLA</td>
</tr>
<tr>
<td>P30</td>
<td>Mesial migration and loss of first molars among young adolescents in United Arab Emirates (UAE)</td>
<td>PREMJANI PRATIK</td>
</tr>
<tr>
<td>P31</td>
<td>Increased Overjet and Dental Trauma: Case report</td>
<td>MAJORANA ALESSANDRA</td>
</tr>
<tr>
<td>P32</td>
<td>Posterior Crossbite: Diagnosis, treatment and follow-up. Presentation of two clinical cases.</td>
<td>TZOUANAKI AIKATERIN</td>
</tr>
<tr>
<td>P33</td>
<td>Class II Division 1: Diagnosis, Treatment and Follow Up. Presentation of two clinical cases.</td>
<td>TZOUANAKI AIKATERIN</td>
</tr>
<tr>
<td>P34</td>
<td>Lower incisor extraction as a viable solution during the orthodontic treatment. Presentation of two clinical cases.</td>
<td>TZOUANAKI AIKATERIN</td>
</tr>
<tr>
<td>ID Number</td>
<td>Title</td>
<td>Presenter/Author</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>P36</td>
<td>Autotransplantion for Ankylosed Permanent Maxillary Incisor: Case Report</td>
<td>ALZAHRAINI FATMA</td>
</tr>
<tr>
<td>P37</td>
<td>Interceptive orthodontic treatment for correction of single tooth cross-bite and deep-bite in mixed dentition: Case report</td>
<td>AL IBRAHIM NAHLA</td>
</tr>
<tr>
<td>P38</td>
<td>Anterior Open-bite: Diagnosis, Interceptive Treatment and Follow-up Evaluation: Case Report</td>
<td>BABATZIA ANASTASIA</td>
</tr>
<tr>
<td>P39</td>
<td>Impaction of anterior teeth due to a dentigerous cyst on a 12 year old child: Case report</td>
<td>BABATZIA ANASTASIA</td>
</tr>
<tr>
<td>P40</td>
<td>The Linqual Splint in the Management of Pediatric Mandibular Fractures: Case series report</td>
<td>NICOLAOU IOANNOU ZOE</td>
</tr>
<tr>
<td>P41</td>
<td>Solitary upper central incisor and associated anomalies. Case report with 14 years of follow-up.</td>
<td>LYGIDAKIS NICK</td>
</tr>
<tr>
<td>P42</td>
<td>Dentoalveolar parameters influenced by oral breathing in children</td>
<td>BUD EUGEN</td>
</tr>
<tr>
<td>P43</td>
<td>Delayed eruption of Central Incisors due to Supranumerary teeth: Case report</td>
<td>YAHAV SORELLA</td>
</tr>
<tr>
<td>P44</td>
<td>Clinical performance and survival of fixed space maintainers: A 7 year retrospective cohort study.</td>
<td>SOTERIOU DESPO</td>
</tr>
<tr>
<td>P45</td>
<td>Management of anterior tooth loss in a growing child: Two cases reports</td>
<td>AL-BAHLANI SUHAILA</td>
</tr>
<tr>
<td>P46</td>
<td>The efficacy of caries resin infiltration in patients with fixed orthodontic appliances</td>
<td>SKATOVA EKATERINA</td>
</tr>
<tr>
<td>P47</td>
<td>Clinical and radiographic evaluation of the temporomandibular joint in children with juvenile rheumatoid arthritis</td>
<td>SKATOVA EKATERINA</td>
</tr>
<tr>
<td>P48</td>
<td>Evaluation of caries risk assessment tools in orthodontics patients</td>
<td>SKATOVA EKATERINA</td>
</tr>
<tr>
<td>P49</td>
<td>Orthodontic management of transported canines in mixed dentition: Case report</td>
<td>AIKATERINIS MINAS</td>
</tr>
</tbody>
</table>
**P1** Ideal and achievable treatment goals for class II division 1 malocclusion in the developing dentition

Alexandrina Muntean*, Michaela Mesaros, Dana Festila, Anca Mesaros
Paediatric Dentistry Department, Luliu Ha iegatu University of Medicine and Pharmacy, Cluj-Napoca, Romania

AIM
In this study, we assess the associations between ideals and achievable goals for orthodontic treatment in class II division 1 malocclusion for children in active growth period.

METHODS
Evaluate, using orthodontic files, 50 cases with class II/1 malocclusion. We monitor selected parameters, patients’ age and gender, associated anomalies, dental status, teeth selected for orthodontic extractions, case evolution and patient cooperation.

Data were analysed using the SPSS software package for Windows and the level of significance was set at 0.05.

RESULTS
In our group demands for orthodontic treatment started from early mixed dentition, especially for girls (77, 3%). We observe that Oral breathing was primarily involved in class II/1 malocclusion development (61, 5%) in association with abnormal swallowing patterns. Patients in mixed dentition has a significant caries score for first permanent molar (DMFT-1.86) and temporary teeth (dmf-4.82) and this constraints required specific orthodontic appliances, particular extraction for orthodontic purpose and modified mechanics for patients treated with fixed appliances. For this particulars reasons we observe an important rate of abandon (28, 3%), especially in cases treated with removable and functional appliances.

CONCLUSION
Patient’s expectations interest mainly profile and maxillary arch for aesthetic reasons. The high caries score and patient cooperation are elements that can overturn a perfect treatment plan especially for patient in growth period. In the particular case of our country is important to extend preventive programs for tooth decay in order to ensure better dental supports that facilitate the success of orthodontic treatment.

**P2** Partial primary loss of a permanent upper incisor in a young patient: Case Report

Marina Agathi Petrou*, Ruth Madeleyne Santamaria, Ute Ulrike Botzenhart, Christian H. Splieth
Departments of 1Preventive and Paediatric Dentistry and 2Orthodontics, University of Greifswald, Germany

INTRODUCTION
Root fractures are a relatively rare dental trauma. Although the prognosis of this type of fractures is usually favorable, complications during the healing process can occur.

BACKGROUND
A 9-year-old boy attended the university clinic accompanied by his parents one day after a dental trauma involving a maxillary central incisor (11). The patient had no other associated injuries and free medical history. 11 was primary treated by a general dentist, who repositioned and stabilized the coronal fragment with an composite splint. The clinical and radiological examination revealed lingual and incisal displacement of 11 and a horizontal root fracture in the apical third of the root. After a week, 11 was endodontically treated due to the presence of a fistula After one year, the patient did not report any symptom, but the tooth was moderately mobile. A radiographic control revealed periradicular pathology associated with the tooth’s coronal part.

COMMENTS
The multidisciplinary consultation (orthodontic, oral surgery and prosthetic departments) resulted in an extraction of the infected coronal fragment. The remaining apical fragment was surgically exposed and extruded orthodontically with light forces using a titanium taper pin. The coronal part was fixed with a glass fiber splint and used as a temporary crown. Follow-up controls have been conducted routinely during a two-year period indicating the maintenance of the hard tissues’ morphology.

CONCLUSION
The conservative approach with a remaining root fragment offers a cost-effective technique, favorably influencing the prognosis of later restorations with an implant.
**P3 Orthodontic aspects among amateur boxers in Poland**

Ewa Nadolska-Gazda*, Katarzyna Emerich

Department of Paediatric Dentistry, Medical University of Gdansk, Poland

**AIM**

The purpose of the study was to assess the awareness of orthodontic aspect in dental trauma prevention among amateur boxers in Poland.

**METHODS**

The research was conducted in the form of questionnaires among amateur boxers aged 12-28 during boxing tournaments in Poland in 2010. Boxers were divided into 3 age groups: schoolboys and juniors (155), youth (66) and elite (117).

**RESULTS**

Among 338 respondents as many as 96.1% did not use any orthodontic appliance. About the same percentage wore removable appliance (2.1%) and fixed appliance (1.8%). Only 109 (32.7%) participants of the survey were aware that malocclusion would make a boxer more vulnerable to dental trauma and 161 (48.4%) had no opinion on this subject. Research has shown that only 61.6% of the boxers had regular dental consultations. In this group of respondents the awareness that malocclusion predisposes to dental trauma was statistically more significant (p=0.01). Moreover, 3.6% of the participants had piercing within oral cavity which they did not remove before training and competition. Only 6% of the boxers used custom made mouthguards, adequate for the users of orthodontic appliance.

**CONCLUSION**

There seems to be an urgent need for educational program aimed at increasing the awareness of boxers regarding the prophylactic of dental trauma and the risk factors involved.

**P4 Orthodontic Treatment of a Patient with Cleidocranial Dysplasia: Case Report**

Marianna Velissariou*, Sofia Sofile, Zoe Nicolaou Ioannou2, Christodoulos Laspos3

1Dental Student, 2Oral and Maxillofacial Surgeon, 3Orthodontist in Private Practice, Limassol, Cyprus

**INTRODUCTION**

Cleidocranial dysplasia is a rare inherited autosomal-dominant disorder concerning the skeletal and dental development. It is caused by a mutation of the RUNX2 gene, which is a regulating factor of osteoblast differentiation. The disease is mainly characterized by partial or complete absence of the clavicles, delayed closure of the sutures or the fontanels, delayed eruption of permanent teeth and numerous supernumerary teeth.

**BACKGROUND**

In this report, we present a young female 8 years of age that was admitted to our clinic. The initial intraoral clinical exam of our patient revealed delayed exfoliation of the primary teeth and severe attrition. A panoramic X-Ray confirmed the oral manifestations of the syndrome due to the presence of multiple supernumerary and impacted permanent teeth. The decided treatment was a combination of orthodontic and surgical treatment. We started the treatment with a transpalatal arch and alignment of the upper teeth in order to facilitate the surgical exposure and orthodontic traction. The impacted permanent teeth were surgically exposed by quadrant. The supernumerary teeth were removed at the time of the surgical exposure.

**COMMENTS**

The early diagnosis and treatment of Cleidocranial dysplasia are essential factors for the success of the treatment.

**CONCLUSION**

The duration of the therapy was approximately 7 years and after the removal of the braces the patient visits our clinic every six months for a checkup. Three year post retention records show minor changes of the final Class I occlusion and an esthetic smile.

**P5 Late treatment of Class II/1 malocclusion using Herbst appliance: Case Report**

Nenad Nedeljkovic*, Zorana Stamenkovic

Clinic of Orthodontics, School of Dentistry, University of Belgrade, Serbia

**INTRODUCTION**

Long-term follow up of the dental and skeletal changes before and after Herbst and fixed appliance treatment, evaluates the effectiveness of the appliance.
BACKGROUND
The patient was a female 14.5 years old at the beginning of the treatment and missed ideal period before pubertal peak of growth. Lateral cephalogram shows skeletal class II and dentoalveolar class II division 1 malocclusion. She was in the Herbst treatment for 6 months and 9 months more with fixed appliance. During the Herbst treatment she was with RPE in the upper jaw. The measurements (Pancherz, 1982) were performed on lateral cephalograms before and after treatment: ii (incisor inferior), is (incisor superior), mi (molar inferior), ms (molar superior), Pg (pogonion) and ss (subspinale). The distance from these points to Olp were measured and compared from cephalogram before to cephalogram after the treatment. TMJ tomograms were compared from before and after treatment by superimposition.

COMMENTS
Maxillary and mandibular Correction was found in molar and incisor relation, overjet and overbite. There were found sagittal skeletal changes and soft tissue profile improvement. Superimposition of before treatment TMJ tomogram to after treatment TMJ tomogram shows condyle and fossa articularis remodeling. Two years follow up photos in retention period shows stable treatment results.

CONCLUSION
Herbst appliance is very effective in the late treatment of class II malocclusions in short treatment time.

P6 Fiber Reinforced Composite Loop Space Maintainer: Step by Step Clinical Procedure
Basak Durmus, Elif Gizem Aktepe, Sertac Peker, Betul Kargul*
Department of Paediatric Dentistry, Dental Faculty, Marmara University, Turkey

INTRODUCTION
Premature loss of the primary teeth is a common occurrence in children. The stainless steel band and loop appliance is the most commonly used fixed space maintainer in pediatric dentistry. Yeluri R. (2012) presented a chair side design of a “Fiber Reinforced Composite” (FRC) loop space maintainer. The aim of this case presentation is to demonstrate the usage of two different types of glass fibers EverStick® (GC, Europe) and GrandTEC® (VOCO GmbH, Cuxhaven, Germany) as “FRC” loop space maintainer.

BACKGROUND
The initial impression is taken with rubber based impression material and cast models are prepared. The initial framework of FRC loop is constructed on cast using a commercially available fiber to formulate the loop. Length of the needed glass fiber is determined according to middle third of the buccal and lingual surface of the abutment tooth. Surfaces of the teeth are etched with phosphoric acid for 30s, rinsed with water, dried and bonding agent is applied and cured for 20 seconds. The loop is finally attached to the tooth using flowable composite resin and cured for 20 seconds. The loop is finished and polished with finishing burs and discs.

COMMENTS
Follow-up at 6 months interval reveal the stability of these space maintainers.

CONCLUSION
FCRs are more expedient alternative to standard space maintainers, clinically acceptable, cost and time saving; are easy to clean and esthetic and also an alternative if there is an indication of metal allergy.

P7 The use of diode laser for cuspid exposures: Case series Report
Christodoulos Laspos*1, Marianna Velissariou2, Zoe Nicolaou Ioannou3
1Orthodontist in Private Practice, 2Dental Student, 3Oral and Maxillofacial Surgeon, Limassol, Cyprus

INTRODUCTION
Diode laser is a new tool in the dental practice and especially in the field of orthodontics. It has a wavelength ideal for cutting soft tissues precisely since it is highly absorbed in haemoglobin and melanin. The device can be used in several procedures such as gingival recontouring especially after orthodontic tooth movement, simple frenum removal, gingivectomy of hypertrophic tissue and exposure of impacted teeth.

BACKGROUND
This presentation will present 5 cases of impacted cuspids that were successfully exposed with a diode laser. Those cuspids were covered mainly by hypertrophic gingiva that inhibited or delayed their eruption. The procedure was performed under local infiltration of anesthetic. The power setting that we used was 2.5W.
COMMENTS
Diode laser is easy to use, with relatively low cost. In the future it should be a part of every dentist’s armamentarium.

CONCLUSION
All the cuspids were then orthodontically positioned in the dental arch. Gingival contour around these teeth was carefully evaluated and showed a nice alignment with the adjacent teeth and the contralateral cuspids.

P8 Long-term Effects of Rapid Maxillary Expansion and Protraction Headgear
Yasmin Kottait*, Katerina Kavvadia, Donald Ferguson
European University College, UAE

AIM
To determine whether there was long-term stability after treatment of a Class III malocclusion with rapid maxillary expansion, Haas type appliance, combined with protraction headgear, Delaire reverse-pull headgear

METHODS
Sample consisted of 22 patients (7 male and 15 female) 4.7 years to 14.1 years, followed-up for an average of 4.3 years post-treatment. Lateral cephalometric radiographs were digitized and angular and linear measurements were calculated. Comparisons from the end of expansion/protraction to long-term recall were made with a Student t-test.

RESULTS
In general, the occlusion was maintained in a favorable arrangement; however, skeletal changes were not entirely desirable. The increase in ANB that was produced by treatment (ANB=2.2 degrees) was lost post-treatment (ANB=-0.4 degrees, t=4.8, p<0.001). There was no significant post-treatment change in SNA. The decrease in ANB was probably due to excessive mandibular growth. SNB increased from 79.5 degrees to 81.7 degrees (t=-3.7, p=0.001), and Wits decreased from -2.5 mm to -4.5 mm (t=2.97, p=0.007). The corrected Class I molar relationship remained stable for most cases. Overjet decreased from 3.1 mm to 1.4 mm (t=2.6, p=0.015). Inter-incisal angle decreased from 126.9 degrees to 121.4 degrees (t=2.97, p=0.007). Mandible repositioning in a downward and backward direction during treatment appears to provide for most of the Class III correction.

CONCLUSION
According to the results post-treatment growth can reduce the correction that was obtained during rapid maxillary expansion and protraction headgear therapy.

P9 Management of space loss in primary dentition
Yasaman Rezvani*, Zahra Shakibaee
1Department of Pediatric Dentistry, Faculty of Dentistry, Shahid Beheshti University of Medical Science, Tehran, 2Department of Oral and Maxillofacial Radiology, Dental College, Hamedan University of Medical Science, Iran.

AIM
Management of premature tooth loss in the primary dentition is important because the consequences of improper space management may compromise the eruption of the permanent successors if there is a reduction in the arch length. Timely intervention may save space. Natural tooth is superior to the best space maintainers.

METHODS
This paper is based on a review of the current dental literature.

RESULTS
The most valid reason for replacing missing incisors is aesthetics. Loss of a primary canine as a result of either trauma or decay is rare. SM during the primary dentition years is aimed primarily at the replacement of primary molars and begins with good restoration.

CONCLUSION
Teeth lost during the primary dentition years will cause later-than-normal eruption of the successors, so appliances should be monitored over a longer period of time. Four appliances generally are used to maintain space in the primary dentition: Band and Loop: indications: 1. Unilateral loss of the primary first molar before or after eruption of the permanent first molar 2. Bilateral loss of a primary molar before the eruption of the permanent incisors. Lingual Arch: often suggested when teeth are lost in both quadrants of the same arch. Distal Shoe: used to maintain the space of a primary second molar that has been lost before the eruption of the permanent first molar. Removable Appliances: can be used when more than one tooth has been lost in a quadrant.
**P10 Bruxism and its managements in children**
Parisa Zarnegarnia*, Yasaman Rezvani*, Zahra Shakibaee*

*1International Branch and 2Department of Pediatric Dentistry, Dental School, Shahid Beheshti University of Medical Sciences, Tehran, 3Department of Oral and Maxillofacial Radiology, Dental College, Hamedan University of Medical Science, Iran.

**AIM**
Bruxism is grinding of the teeth. Rarely, endanger the pulp by proceeding faster than secondary dentin is produced like in handicapped. Masticatory muscle soreness and TMJ pain have been reported. The aims for this study were to determine the phenomenon of bruxism and its managements in children.

**METHODS**
This paper is based on a review of the current dental and medical literature.

**RESULTS**
The majority of studies found a relationship between bruxism and TMD. The exact cause is unknown. Most explanations center on local, systemic, and psychological factors. In local theory is a reaction to an occlusal interference, high restoration, or irritating dental condition. Systemic factors include intestinal parasites, subclinical nutritional deficiencies, allergies, and endocrine disorders. In psychological theory is the manifestation of a personality disorder or increased stress. Children with musculoskeletal disorders (cerebral palsy) and severely mentally retarded children commonly grind their teeth.

**CONCLUSION**
Treatment begins with simple measures. Occlusal interferences should be equilibrated. If that was not successful, referral to appropriate medical personnel should be considered to rule out any systemic problems. If neither of these two steps is successful, a mouthguard-like appliance can be constructed of soft plastic to protect the teeth and discourage the grinding habit. If the habit is thought to be due to psychological factors, which is unlikely, referral to a child physician is warranted. Rarely, occlusal wear is so extensive that stainless steel crowns are needed to prevent pulpal exposure or eliminate tooth sensitivity.

**P11 Cephalometric determination of tongue posture in mouth breathing patients**
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**AIM**
In the elaboration of this study we took into consideration the assumption that the hypertrophy of the palatine tonsils in mouth breathing patients determines the decrease of the oropharynx lumen. In order to enlarge it, the mandible shall have a propulsion movement and the tongue shall have a low and anterior position.

**METHODS**
70 children with ages of 8-9 years, suffering of dento-maxillary anomalies took part in the study. After the ENT examination the initial lot has been divided in two groups: mouth and nasal breathers. On the patients’ cephalometrics we have determined the tongue posture by the following measurements comparatively performed for the two groups of patients: 1) the oropharynx width; 2) the distance between the tongue and the pharyngeal wall; 3) the shortest distance measured between the dorsum of the tongue and the maxillary plane; 4) the tongue height and length.

**RESULTS**
The statistic tests indicate significant differences between mouth and nasal breathers only in relation to the oropharynx width (p=0.0088). In case of other measurements performed, the averages have insignificant statistical differences.

**CONCLUSION**
The significantly higher values of the oropharynx width in case of the mouth breathing patients in comparison with nasal breathing patients confirm the hypertrophy of the palatine tonsils. The mouth breathing patients of our study indicate an anterior and inferior tongue posture in comparison with nasal breathing patients. The determination of these values on the cephalometrics brings an additional element for the orientation of the clinician as regarding the patient’s breathing pattern.

**P12 Permanent teeth emergence patterns relating to caries experience of primary teeth**
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**AIM**
To assess the incidence of carious lesions of primary teeth and the emergence patterns of permanent teeth related to caries
experience in children.

METHODS
The study group included 232 children, aged between 8-11 years with mixed dentition. The inclusion criteria were the installing of second phase of mixed dentition and the lack of any type of dental agenesis of the permanent teeth. We determined the caries intensity using the individual dmft indices. According to the dmft index values, children were divided into three groups: dmft=0, dmft=1-4, dmft >5. The assessment of eruption patterns of permanent teeth was performed by periodical clinical and radiographic examinations. Considering the number of working groups included in the study and especially the need for regular updating of information, we implemented a computer system that allows for the management of data processing and statistical analysis.

RESULTS
The dmft >5 index was determined in about 60% of cases. We noticed optimal emergence sequences of permanent teeth in 21% of cases of the dmft >5 group, representing a lower percentage compared to the unfavorable eruption sequences determined in 79% of cases. The unfavorable rate of sequences eruption was more increased to the maxilla compared to the mandible.

CONCLUSION
The damages caused by dental caries in the second permutation phase of mixed dentition are at a high level. The untreated dental caries and their complications can modify the emergence sequences of permanent teeth and also favor the appearance of dento-maxillary anomalies. The interception and prophylactic treatment is necessary.

P13 Finite element analysis for upper molar distalization
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AIM
To determine the role of second molar during upper first molar distalization movement, using FEM (finite element method). This method allows a simulation of force systems which can determine bodily distal molar movement.

METHODS
We used a model of upper first molar, periodontal ligament and alveolar bone, assisted by the analysis design programs, Solidworks2007 and CATIA P3V5R16.

RESULTS
Results shows that the rotational axis of first molar is displaced when applying a palatal force for distalization from buccally – apex to palatal – crown and compressive stress is located on cervical region of distobuccal root. For bodily movement, the moment/force ratio at the molar centre of resistance must be zero, so it is necessary to reduce the moment on the molar band using a counterbalancing couple (CBC) with effects in vertical plane. The displacement of upper molar rotational axis during distalization is proved by molar rotation and explains the second molar role as a fulcrum, when is not erupted.

CONCLUSION
Bodily distal upper molar movement could be obtained only when rotational axis is at infinite and the compressive stress is homogeneously distributed in the periodontal ligament. This study indicates that upper molar distalization is a tipping and extrusion movement, combined with mesio-buccal rotation and buccally-crown torque. The distalization is an alternative treatment method, in dento-maxillary anomalies, for avoiding extractions especially on low angle cases.

P14 The attitude towards interceptive orthodontic treatment in parents of children with unsaveable carious primary molars
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AIM
The aim of our questionnaire-based study was to evaluate the attitude towards interceptive orthodontic treatment in parents whose children had unsaveable carious primary molars leading to their premature loss.

METHODS
Parents of children with unsaveable carious primary molars attending one peripheral dental office and the paediatric dentistry department at the university medical centre during one month were consecutively invited to complete a questionnaire comprising
5-step Likert questions. Their agreement with the necessity of extraction of unsaveable carious primary teeth (Q1) and their concern about the extraction procedure (Q2), orthodontic consequences of premature primary molar loss (Q3), placement (Q4) and wearing (Q5) of a space maintainer were tested. Simple count analysis was used counting the number of «absolutely disagree» or «disagree» (Q1, Q3) and «absolutely agree» or «agree» (Q2, Q4, and Q5) answers. Score 3 or higher was considered an indicator of a negative attitude towards interceptive orthodontic treatment.

RESULTS
Parents of 20 children aged 6.2±2.3 years responded. The most frequent answers were “agree” (Q1: 40%, Q2: 30%, and Q3: 35%, respectively) and “neither agree nor disagree” (Q4: 30%, and Q5: 30%, respectively). According to simple count analysis, score 3 or higher was achieved in 30% of participating parents, indicating a negative attitude towards interceptive orthodontic treatment.

CONCLUSION
In our population, while planning the treatment of children with unsaveable carious primary molars leading to their premature loss, a negative attitude towards interceptive orthodontic treatment should be anticipated in almost a third of their parents.

P15 Correlation between Class II and dento-alveolar trauma
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1University of Brescia, 2University of Sassari, Italy

AIM
To verify of the correlation between II dental class, with overjet > 3mm, and dento-alveolar trauma, in a population of children aged maximum 18, with permanent dentition, in the Dental Clinic of Brescia, Italy, from 2007 till 2011.

METHODS
A total of 522 patients with dental trauma (896 teeth) referred to the Dental Traumatology Department of the Dental Clinic of Brescia were included in the study. Epidemiological data were recorded, and an objective, radiological and photographic exam was made for each patient. As control group, patients with permanent dentition (maximum 18 years old) followed in the Pediatric Dentistry Department (n=500) without history of trauma were selected. Overjet was calculated through a periodontal probe and patients were divided into two groups: normal overjet (0-3mm) and increased overjet (>3 mm). A statistical analysis through chi square test was performed.

RESULTS
Out of 522 cases of dental trauma, 364 (69,7%) were male and 158 (30,3%) female. Most involved teeth were central upper incisors (75,3%). About overjet, 141 patients (27%) presented a physiological overjet, and 381 (73%) had an overjet > 3mm. In the control group, 212 (42,4%) patients had an overjet >3mm, and 288 (57,6%) an overjet <3mm. There was a significant difference between different types of overjet and dental alveolar trauma (÷²= 98,11, p<0.01).

CONCLUSION
Epidemiological data confirmed those reported in Literature; furthermore, a correlation between dental class and dental alveolar trauma was found. These data are useful to underline the importance of prevention and to plan a timely and early intervention.

P16 Early diagnosis of oral habits in a group of pre-school children
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Department of Paediatric Dentistry, Carol Davila University, Bucharest, Romania

AIM
To evaluate the prevalence of oral habits in a group of preschool children from two kindergartens located in two cities of Lalomita County, Romania.

METHODS
A clinical study was carried out on a group of 224 preschool children (119 girls, 105 boys) aged between 37 and 71 months old (mean 53.28 ± 9.905) from two kindergartens located in different cities of Lalomita County, Romania (Slobozia and Fetesti). Data for study were recorded during a preventive program organized in the two kindergartens in November 2012. Clinical examination was performed by one doctor and the presence of oral habits was noted in the examination charts.

RESULTS
Oral habits were observed on 78 (34.82 %) children, as follows: 41 (18.30%) cases of non nutritive thumb/digit sucking, 18 (8.03%) cases of mouth breathing, 10 (4.46%) cases of self injurious habits (lip biting) and 9 (4.01%) cases of tongue thrusting. None of the examined children had been to the dentist before.
CONCLUSION
More than one third of the examined children were diagnosed with oral habits needing management and none of them had been to a dentist for help. This suggests that there is need to intensify oral health education in our environment, starting with programs involving pre-school children, to enable them benefit from interceptive orthodontic care which has numerous advantages.

P17 Early treatment of impacted maxillary central incisors due to supernumerary teeth in paediatric dentistry: Case series Report
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INTRODUCTION
Paediatric dentists encounter supernumerary and/or impacted teeth frequently as dentoalveoler problems in early mixed dentition in children. In this study, we aimed to present our paediatric patients treated surgically and/or orthodontically as early intervention in our department and to share our knowledge about the management of such cases.

BACKGROUND
Ten patients ranging in ages from 8 to 10 who came to the Department of Paediatric Dentistry at Marmara University with the complaint of unerupted teeth in anterior maxillary region were included in this study. Clinical and radiographic examinations revealed supernumerary teeth or odontomas as the cause of impaction in the permanent incisor. Cone-beam computed tomography was taken in order to diagnose proper location of the impacted teeth. After the surgical treatment, forced eruption with fixed orthodontic appliances was performed in the clinic setting of paediatric dentistry.

COMMENTS
Supernumerary teeth and their complications are often seen and diagnosed early in paediatric dentistry clinics. If these cases are not intervened properly, malocclusions and complicated surgical, orthodontic and prosthodontic treatment may be needed in older ages. In our cases, we implemented early orthodontic approaches in prepubertal children and emphasized the importance of teaching early orthodontic treatment techniques during the paediatric dentistry training.

CONCLUSION
Patients were scheduled in three weeks appointments and the eruption of impacted teeth was achieved in one year. All patients were followed up for two years.

P18 Avoidable unwanted space consequences of early loss of a lower first permanent molar: Case report
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INTRODUCTION
Compromised first permanent molars (FPM) are often considered for extraction during mixed-dentition stage in order to minimize unfavorable occlusal consequences.

BACKGROUND
An 8,5 yrs old girl with diabetes was referred to our clinic for oral care. She had mixed dentition, very poor oral hygiene, severe gingivitis and various degrees of decay on deciduous molars and FPM. Given the stage of development of 37 and the fact that 36 was very severely affected, the latter was extracted. 74 was also extracted after 4 months, while 75 remained. All caries were treated and then the patient did not show for follow-up for 8 months. Examination at age 10y4m revealed 75 retained between 34 and 35, the latter having erupted distally, on the place of 36; 37 was erupting distal to 35; 38 was the only third molar present on panoramic x-ray. 75 was removed and orthodontic treatment was initiated in order to obtain reasonable occlusion and to make place for 38. Evolution is favorable but slow.

COMMENTS
It is currently accepted that extraction of compromised lower FPM should ideally be done at the age of 8-9 years. The second permanent molar would thus erupt early, spontaneously establishing convenient occlusal contacts. In our case, closer follow-up and earlier extraction of 75 could have avoided excessive distal drifting of 35, probably sparing long-term orthodontics.

CONCLUSION
Proper choosing of the moment for early loss of FPM is crucial for a spontaneous evolution towards convenient occlusion. Close follow-up is also a must for preventing unwanted complications.
**P19 Compound odontoma praevia in a 10 years old girl: Case Report**

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**INTRODUCTION**
Odontomas are odontogenic benign tumors which may cause impaction of permanent teeth.

**BACKGROUND**
A 10 years old girl diagnosed with odontoma by another clinician came to our clinic for a second opinion regarding treatment. X-ray revealed unerupted 31 and 32 with almost complete root development and an 'odontoma like' feature situated apically and lingually to the root of 72, causing impaction of 32. 72 was still present. Dental history revealed that surgical removal of both tumor and impacted 32 under GA were recommended 6 months before.

**COMMENTS**
A multidisciplinary team managed the case. Odontoma was surgically removed under local anaesthesia. A number of calcified tooth-like structures were found. Histological examination confirmed compound odontoma diagnosis. During surgery, a chained eyelet was bonded to the labial surface of 32, a hook was bonded labially on 31 and a cemented lingual arch was placed. Orthodontic traction of impacted teeth was started. For better control of teeth movement, a partial fixed appliance was subsequently placed. X-Rays taken 1 year later showed 31 in a vertical position, almost reaching the correct location on the arch and 32 in a very high position, already piercing the mucosa. Further development and prognosis are very good.

**CONCLUSION**
Odontomas are treated by conservative surgical removal and there is little probability of recurrence. Teeth impacted by odontoma praevia are not necessarily compromised. Orthodontic treatment may often align them on the arch. Early diagnostic and tumor removal may reduce duration and complexity of orthodontic treatment.

**P20 Effective appliances to improve ectopic eruption of mandibular first molar permanent teeth: Two Cases Report**

Chieko Mitsuhata*, Yukiko Konishi, Yasutaka Kaihara, Katsuyuki Kozai

**INTRODUCTION**
Ectopic eruption (EE) of a first permanent molar is sometimes noted during mixed dentition period. We tried to improve EE of first permanent molars using two convenient systems which are already used for EE of mandibular second permanent molars, and report the effectiveness in Japan. These systems consist of a lingual arch, sectional arch, and elastic. The purpose of this presentation is to demonstrate the management and improvement of EE of permanent mandibular first molars with the convenient systems.

**BACKGROUND**
Case 1. An 8-year-old girl visited our clinic for a dental check-up and caries prevention at 5 years old, and continued to receive regular dental check-ups. Her mandibular right first permanent molar presented with symptoms of mesial impaction due to ectopic eruption. We chose a convenient system using a lingual arch, sectional arch, crimpable hook, and power chain. Case 2. A 7-year-old boy with the chief complaint of ectopic eruption of the mandibular left first permanent molar. We chose another convenient system: a simple molar controller (SMC) that used an improved lingual arch and power chain. The first permanent molar showed a normal position after 2 months in both cases.

**COMMENTS**
Case 1 has been followed for 4 years, and case 2 has been followed for almost 2 years. The treated teeth have maintained a favorable condition.

**CONCLUSION**
These methods are technically easy, place little burden on the patient, and facilitate high-level treatment efficiency.

**P21 Predication of mesio-distal crown widths of unerupted mandibular canines and premolars in two distinct populations**

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**AIM**
Our aim was to determine which permanent tooth or group of teeth would best predict the mesio-distal crown width of the canine-premolar segment in the mandibular dental arch of American subjects with either Mexican or Japanese descent.
METHODS
SAMPLE Selection criteria included healthy permanent dentition; all teeth present from first molars; sufficient eruption to measure mesio-distal dimension, no interproximal restorations. Mexican-American: 113 subjects (51 males and 62 females) Japanese-American: 98 subjects (44 males and 54 females) PROCEDURES 1) Mitutoyo digimatic calipers used to measure mesio-distal widths nearest .01mm of all permanent teeth in both arches, except second and third molars, 2) Prediction formulas were derived for calculating the mesio-distal crown width of lower canine-premolar segment for each of 3 groups: male, female and combined. 3) Using the least squares method of linear regression, 63 possible relationships were evaluated.

RESULTS
Best prediction for mesio-distal crown size of the lower canine-premolar segment was demonstrated by the following correlation coefficients as follows: For Mexican sample: measuring L26U26 males (r=.85) and females (r=.78) For Japanese sample: measuring L16U12 for males (r=.72), and measuring L2U26 for females (r=.72) After combining genders, the best prediction for mesio-distal crown sizes was by measuring L26U26 (r=.84) in the Mexican American sample and L126U26 (r=.73) in the Japanese population.

CONCLUSION
Best prediction for mesio-distal crown size of the lower canine-premolar segment, regardless of gender, was L26U26 (r=.84) in the Mexican-American sample and L126U26 (r=.73) in the Japanese-American population.
(SLP) for an Orofacial Myofunctional Assessment. Results revealed Orofacial Myofunctional Disorder and Moderate Articulation Disorder. Subjects received orthodontic treatment in conjunction with OMT. Subjects were dismissed from OMT once correct function of tongue and facial muscles at rest and swallowing were established. Orthodontic appliances were removed once the anterior open bite was closed. Articulation errors were remediated with OMT and the normal occlusion.

RESULTS
Subjects were frequently re-evaluated by the orthodontist and the SLP. Two years post retention records revealed that subjects continued to exhibit Class I occlusion, normal articulation patterns and proper orofacial myofunctional habits.

CONCLUSION
The long term retention outcome in the closure of the anterior open bite is significantly higher when orthodontic treatment is combined with OMT. The early diagnosis and treatment as well as the combination of the orthodontic treatment with the OMT are essential factors for the success of retaining the closure of anterior open bite.

P24 Lip competence, breathing mode and pharyngeal flora in vertical growth pattern
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AIM
The aim of the study was to determine the role of mouth breathing, lip incompetence and the presence of pathogenic pharyngeal flora in the long face growth pattern.

METHODS
52 children (mean age 11.41±3.03) were included into the study. Face pattern was determined according to anterior facial index measured on lateral cephalograms. Lip seal was determined by the clinical examination. Mode of breathing was defined by breathing detector. Pharyngeal swab was taken from subjects and was tested by culture for potential bacterial pathogens. The Student t-test was used for statistical analysis.

RESULTS
The prevalence of lip incompetence was higher in children with vertical growth pattern (p=0.003) than in normal face group, but the mode of breathing did not differ significantly in both groups. Microbiological results revealed no difference in presence of potential bacterial pathogens between long and normal face group. Subjects with both incompetent lips and potential bacterial pathogens in pharyngeal microbial flora proved to have significantly more excessive anterior lower facial height than subjects with competent lips and normal pharyngeal microbial flora (p=0.001). The presence of potential pathogenic flora was higher in lip incompetence children (38.46%) in comparison to lip competence subjects (30.76%), but there were no significant difference (p=0.36). Concerning respiration pattern, pathogenic bacteria flora was detected in 50 % of subjects with mixed mode of breathing and in 19.23 % of nose breathing subjects (p= 0.37).

CONCLUSION
Lip incompetence has stronger influence on the facial growth pattern than mode of breathing.

P25 Use of removable appliances and inter-arch Class III elastics to treat mild Class III malocclusion at late mixed dentition stage: Case report.
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INTRODUCTION
In non-surgical cases of Class III malocclusion early correction of mandibular displacement has been advocated, in order to prevent restriction of maxillary development, discourage unrestricted mandibular growth and improve facial aesthetics. Growing patients who present with maxillary retrognathism should be considered for early maxillary expansion, in order to procline anterior maxillary teeth into positive overjet. Rapid maxillary expansion and face mask therapy is a viable treatment option; however, this modality may not be effective when applied at late mixed dentition stage.

BACKGROUND
A 9-year old female at late mixed dentition stage exhibited: anterior and unilateral posterior cross-bite, mild Class III molar relationship bilaterally, edge-to-edge incisor positioning at centric relation and forward mandibular functional shift on closure. Cephalometry revealed the presence of a mild Class III skeletal relationship involving retrusion of the maxilla and normal mandible.
COMMENTS
An upper removable appliance with a mid-palatal screw along with posterior bite plates was used, in order to correct the dento-alveolar relation. Furthermore, inter-arch class III elastic forces were applied through custom-made hooks inserted in the upper Hawley appliance as well as in a lower removable appliance, with the aim to produce lower incisor retroclination, upper incisor proclination and antero-posterior correction of the molar relationship. 1st phase orthodontic intervention was completed successfully after 11 months. The patient was followed up for 1 more year and subsequently she entered 2nd phase treatment period with fixed appliances.

CONCLUSION
Treatment of mild Class III orthodontic problems may be initiated at the late mixed dentition period.

P26 Extractions in a patient with supernumerary teeth in deciduous and mixed dentition: Case Report
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INTRODUCTION
Monitoring of teeth eruption and occlusion development is an integral part of dental examination of children and adolescents. Such approach allows early diagnosis of malocclusions. Supernumerary can be present in addition to normal teeth. They represent the main cause for teeth eruption disorders and their occurrence may result in malocclusions.

BACKGROUND
A clinical examination of a girl, 3.5 years old, revealed a full deciduous dentition with two lateral right maxillary incisors, both of conical shape. Due to the supernumerary the maxillary medial line was shifted to the left, and on the right side the upper canine and the second molar were in distal position. Yet her occlusion was stable. A radiograph revealed an additional supernumerary tooth bud in this area. Extraction of a deciduous supernumerary was postponed until she was 8. At that time, a second supernumerary had formed a crown and one half of a root. Because it was locked between the deciduous canine’s fully developed root and the lateral permanent incisor this blocked the descending of a permanent canine bud. A month later an extraction of the deciduous canine was performed, and as the supernumerary started erupting a couple of months later it was also extracted.

COMMENTS
Treatment depends on the type and position of the supernumerary teeth and their effect on the adjacent teeth.

CONCLUSION
Further evaluation of teeth eruption and monitoring of occlusion development is to be performed.

P27 Multidisciplinary managing of severe maxillofacial and oral trauma: Case Report
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INTRODUCTION
Severe maxillofacial and oral trauma with multiple teeth loss and substantial bone loss in childhood presents a challenge for dental and medical professionals how to combine the needs for children’s undisturbed development with necessary injury treatment.

BACKGROUND
Eight year old boy was polytraumatized after high energy trauma in a car accident. In facial and region he sustained multiple mid-face and mandible fractures, avulsion of maxillary right first incisor and mandibular right second incisor, lateral and intrusive luxation of maxillary right second incisor, transposition of a maxillary left second molar into maxillary sinus and avulsion of a mandibular left canine germ. He underwent three surgical procedures to treat maxillofacial bone fractures. Removable orthodontic appliances with acrylic teeth were introduced 3.5 months after the accident to replace missing teeth, to prevent teeth tilting and to actively expand constricted maxilla. Root canal treatment on a maxillary right second was performed due to pulp necrosis.
COMMENTS
In the intervening period to more permanent treatment of maxillofacial injuries after high energy trauma multidisciplinary team approach is mandatory to achieve satisfactory aesthetics results and provide good function in children.

CONCLUSION
In a 4.5 year time after the accident, a maxillary left second molar germ had to be surgically removed due to acute sinusitis. Follicular cyst of a mandibular right canine emerged and was exfoliated, which lead to delayed tooth eruption. Maxillary right second incisor showed replacement root resorption together with malposition and was extracted. Removable orthodontics appliances were adjusted according to changed oral conditions.

P28 Orthodontic treatment need and complexity among blind and deaf children with mixed dentition in Romania
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AIM
The assessment of orthodontic treatment need is necessary for informed planning of orthodontic services. The aim of this study was to assess these parameters using the Index of Complexity, Outcome and Need (ICON) in a Romanian population of school children in the city of Cluj Napoca.

METHODS
Forty one randomly selected children with mixed dentition aged 6 to 12 years old were examined using the ICON in their school’s medical office. 22 of them have hearing disabilities while 19 subjects are institutionalized for partial or total blindness.

RESULTS
About 78% of the studied group presented a need for orthodontic treatment. We found in our research statistically significant differences, the IOTN score was higher in blind children 94.73%, than 63.63% in deaf children. Also there were gender differences, more males having statistically higher mean ICON score. The grades of complexity of the population were 26,31% for difficult, 57,89% for moderate, and 15,78% easy.

CONCLUSION
Although more than three quarters of the children were found needing treatment, only two of the subjects were found to be treated orthodontically at the time. The difficult complexity grades indicate a definite need for specialist care. The authors observed the utmost importance of interceptive and preventive orthodontics in the developing dentition.

P29 Aesthetic maxillary fixed space-maintainer appliance in a child with early childhood caries: Case Report
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INTRODUCTION
Space management and prosthetic replacement of prematurely lost/extracted primary teeth may be achieved by an aesthetic fixed space-maintainer appliance (AFSM).

BACKGROUND
A case of early childhood caries managed under general anaesthesia in a hospital in Jordan. This report highlights the clinical and psychosocial considerations after extraction of anterior primary teeth. Prosthetic replacement of primary teeth with AFSM is also described.

COMMENTS
A 3-year old healthy male presented to the pediatric dental clinic with pain involving his anterior teeth. Upon examination he was diagnosed with early childhood caries and an acute abscess (52-tooth). Treatment under general anaesthesia included pulp therapy and stainless steel crowns (55,65,74,84 teeth), conservative adhesive restorations (75,85 teeth), composite restorations (53,63 teeth), and extractions (54,64,52,51,61,62 teeth). The parents requested replacement of extracted teeth and AFSM was planned; bands were placed on (55,65 teeth) and alginate impressions taken for construction of the appliance. Follow-up: The child was reviewed 10-days after general anaesthesia. The appliance was cemented using glass ionomer cement and the child and parents were satisfied. Oral hygiene instructions and daily 0.2% chlorhexidine gel for 2 weeks were prescribed. The patient
attended for a review of the appliance 2 weeks after, and every 3 months until more than 2-years afterwards, the appliance was functioning and the patient satisfied.

CONCLUSION

The anterior aesthetic fixed space maintainer may be used to replace anterior teeth in the maxilla for aesthetic and psychosocial reasons, besides space retention in the posterior region.

P30 Mesial migration and loss of first molars among young adolescents in United Arab Emirates (UAE)
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AIM
Our aim was to determine the prevalence of and factors associated with mesial migration and/or loss of first molars in 13-14-year-old school children in United Arab Emirates (UAE).

METHODS
A population-based sample of 1,583 eighth grade students of mean age 13.23 +/- 0.42 yrs, representing about 7% of the target population, were selected using multistage cluster sampling methods. Information on nationality, family income, and number of siblings was collected through subject and family interview. Any mesial migration or loss of first molars as well as visible caries was recorded in a well lit classroom.

RESULTS
The prevalence of mesial migration and/or loss was 11.4%. Almost 70% of this occurred only in the mandible, and the majority (75.7%) had only one tooth affected (p < 0.01). There were no gender differences (p > 0.05). The prevalence also differed with family income (p < 0.05), increased (p < 0.05) with increasing number of siblings, and was higher (p < 0.001) in subjects with presence of caries lesions (22.2%) than in those without (9.6%).

CONCLUSION
About 12% of current age cohorts of school children in UAE are likely to experience mesial migration and/or loss of one or more first molars. The conditions are associated with presence of untreated caries lesions. Private school attendance and high as well as low family income are associated with a decreased level of mesial migration and/or loss of one or more first molars. Increased number of siblings is a risk factor.

P31 Increased overjet and dental trauma: Case Report
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INTRODUCTION
Dental trauma in pediatric patients interest more than 15% of children in permanent dentition. Within predisposing conditions, II Angle class, associated to increased overjet and lip incompetence is one of the most important.

BACKGROUND
A 7 years old child with Angle II class malocclusion presented with dental trauma on the upper central teeth. Patient was treated before for dental trauma and then to solve malocclusion reducing the risk of further trauma.

COMMENTS
The child had an enamel-dentin fracture of teeth 11 and 21, subluxation of 11, 21 and 63 with II degree mobility and laceration of inferior lip mucosa. Tooth 21 didn’t respond to vitality test. Orthodontic analysis revealed an II class I division malocclusion. A mixed resin-wire splint was done, and removed after 15 days; four months after trauma, tooth 21 responded still negative to vitality test, so an apecification with MTA was done. Indirect resin reconstructions for teeth 11 and 21 were performed. Then, parents choose to start an orthodontic fix treatment to correct malocclusion. The last follow-up was done after 4 years: at radiographic exam, a complete root formation without periapical inflammation of 21 was recorded.

CONCLUSION
Orthodontic malocclusion, in particular II Angle class, is a frequent risk factor for dental trauma in children. The choice of an orthodontic treatment in children who experienced dental trauma is important for reducing the risk of recurrence and to obtain a long term success and high level quality of life.
P32 Posterior Crossbite: Diagnosis, treatment and follow-up: Presentation of two clinical cases.
Efstratios Ferdianakis1, Ioannis Lyros1, Alexios Katsadouris1, Aikaterini Tzouanaki2, Apostolos Tsolakis1
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INTRODUCTION
The aim of this presentation is to display the correction, through orthodontic treatment, of bilateral and unilateral posterior cross-bites in two clinical cases.

BACKGROUND
Both patients, a 15 year-old girl and a 14 year-old boy, where referred to the Department of Orthodontics Dental School, University of Athens for orthodontic treatment.

COMMENTS
The clinical examination of the female revealed a Skeletal Class III tendency and Class I molar and canine Angle relationship. In addition, the patient presented bilateral posterior crossbite which was extended to maxillary lateral incisors. Treatment with unilateral posterior crossbite which was extended to maxillary right lateral incisor, excessive overbite, rotation of the upper right first molar and moderate curve of Spee were presented. Treatment with Hyrax for Rapid Palatal Expansion and placement of fixed appliances was decided, in order to achieve a functional occlusion. For both patients, fixed retainers were selected for upper and lower arches, as well as a Hawley removable appliance for the upper jaw. The follow-up period lasted two years and the patients are still in an annual recall program.

CONCLUSION
The orthodontic treatment of these cases, the alternatives of treatment plan, as well as the means of retention applied will be presented and discussed.

P33 Class II Division 1: Diagnosis, Treatment and Follow Up: Presentation of two clinical cases
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Departments of 1Pediatric Dentistry and 2Orthodontics, Dental School, University of Athens, Greece

INTRODUCTION
Class II malocclusion is the condition in which the first permanent lower molar is in a more distal position than his antagonist. It comes up with two different clinical types of overjet, Division 1 and 2. The Division 1 is characterized by an increased overjet, in contrast to the normal or decreased overjet of Division 2.

BACKGROUND
Both Caucasian girl patients, a 12 year-old and a 10,5 year-old respectively, were referred to the Department of Orthodontics Dental School, University of Athens for orthodontic treatment.

COMMENTS
The clinical examination of both patients revealed a Class II Division 1 malocclusion. The 12 year-old girl was treated with a combination of cervical headgear and an activator. When an overcorrected Angle Class I first molar occlusion was achieved, the therapy was continued with the Edgewise technique. The second girl was treated only with a cervical headgear and fixed appliances. A permanent retention was selected for both jaws for the first patient in combination with a Hawley removable appliance. For the second patient, a fixed retention was chosen for the lower arch and a Hawley appliance for the upper arch, respectively. The follow-up period lasted two years with six-month intervals of observation and the patients are still in an annual recall program.

CONCLUSION
These cases make very clear that the regular response in combination with the co-operation of these orthodontic patients to the long-term clinical follow-ups contributed to the successful completion of the orthodontic treatment and the maintenance of the therapeutic benefit as well.

P34 Lower incisor extraction as a viable solution during the orthodontic treatment: Two Cases Report
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INTRODUCTION
There are cases in which a lower incisor extraction is a viable solution for an orthodontist. These cases include patients with Bolton’s discrepancy, mild to moderate lower arch crowding and a buccal inclination of the lower incisors, as measured by the IMPA angle on the lateral cephalogram.
BACKGROUND
Both patients, a 20 year-old male and female respectively, were referred to the Department of Orthodontics Dental School, University of Athens for orthodontic treatment. The clinical examination of the male revealed a Skeletal Class I relationship and a Class I molar and canine Angle relationship, extensive crowding in the lower arch and an obtuse IMPA angle.

COMMENTS
Treatment with bonded orthodontic appliances and extraction of one lower incisor (#41) was chosen. The clinical examination of the female revealed a Skeletal Class I relationship and Dental Class II subdivision left malocclusion, posterior crossbite at the area of 26, 36, increased overbite, crowding in both arches, and a high IMPA. Treatment with Quad-helix, fixed appliances and extraction of the lower right central incisor (#41) was chosen. For both patients, fixed retainers were selected for both arches, as well as a Hawley removable appliance for the upper jaw. The follow-up period lasted two years and the patients are still in an annual recall program.

CONCLUSION
When moderate to increased crowding of the lower arch, midline deviation and a high IMPA are present, the clinician should consider such a treatment plan in order not to deteriorate the inclination of the lower incisors.

P35 Effects of oral breathing on craniofacial morphology: A cephalometric study
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Private Dental and Medical Practice, Targu-Mures, Romania

AIM
The aim of the study was to compare dental and skeletal characteristics on lateral cephalograms in children with mouth and nasal breathing and to assess the effects of mouth breathing on craniofacial morphology.

METHODS
The study group was formed of 30 children, aged 7-14 years. The group was divided into two groups: 15 patients with nasal breathing and 15 with mouth breathing. The inclusion criteria were: no completed or ongoing orthodontic treatment and no prior treatment in the ENT area. Lateral cephalograms were obtained from both groups and 10 different parameters were measured and compared. For the statistical analysis we used the nonparametric Mann-Whitney U test, with an \( \alpha = 0.05 \) level of significance.

RESULTS
We found that mouth breathers had a significantly more retrognathic mandible, revealed by the SNB angle (\( p=0.0140 \)), while the position of the maxilla (SNA angle) showed no statistically significant difference between the two groups (\( p=0.574 \)). The mouth breathing group presented more proclined upper incisors (\( p=0.0135 \)), reduced interincisal angle and increased divergence of the jaws, reflected by GoGn-SN angle and GoGn-AnsPns angle. There were no statistically significant differences for the IMPA angle between groups.

CONCLUSION
Mouth breathing patients tend to have a more retruded mandible, protruded upper incisors and a vertical growth pattern. The measured parameters show that the breathing pattern has an influence on craniofacial development in children.

P36 Autotransplantation for Ankylosed Permanent Maxillary Incisor: Case Report
Fatma S. Alzahrani*, Monty S. Duggal
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INTRODUCTION
Premolars Autotransplantation replacing traumatised missing incisors has been shown to be an excellent treatment option for young patients. This procedure is of particular interest for children and adolescents with developing alveolar bone for whom implants and other prosthetic rehabilitations are usually contraindicated, as well as providing a better biological substitute for a missing incisor.

BACKGROUND
This case report described the management of an ankylosed upper central incisor (UR1) in a 13 years old patient The patient has been referred by his general dentist as aesthetic was the main concern. UR1 was ankylosed as a consequence of previous avulsion. The case was managed by multidisciplinary approach involving subsequent orthodontic treatment. The treatments initially started with tooth decoronation for UR1 followed by autotransplantation of a mandibular first premolar under general anaesthesia and later the transplanted tooth received root canal treatment.
COMMENTS
Clinical and radiographic follow up revealed that there has been good healing and tooth has remained a symptomatic.

CONCLUSION
Autotransplantation with subsequent reshaping provides one of the fastest and most economically feasible means for replacing teeth with poor long term prognosis, especially in young patients.

P37 Interceptive orthodontic treatment for correction of single tooth cross-bite and deep-bite in mixed dentition: Case report.
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National Guard Health Affair, Saudi Arabia

INTRODUCTION
Interceptive orthodontic treatment in mixed dentition aims to prevent partial or total establishment of malocclusion. It promotes favorable developmental changes and suppresses unfavorable features of occlusal development. Early cross-bite correction is highly recommended once encountered. Failure to provide timely treatment may lead to abnormal wear, dental compensation, functional shift, thinning of labial mucosa, and recession. Anterior deep-bite is considered among the most deleterious malocclusion with regard to the future health of the dental units and the masticatory apparatus.

BACKGROUND
A ten- year medically fit Saudi girl was referred by pediatric dentist to orthodontic clinic at National Guard Hospital for management of cross-bite.

COMMENTS
Clinical examination revealed mixed dentition with bilateral class I and mesial step molar relationship. Upper right permanent lateral incisor was in cross-bite with potential mucogingival problem on the lower right permanent lateral incisor. The upper left permanent later incisor was in mesial rotation and the overbite was from 50% to 80%. Cephalometric analysis showed orthognathic face with skeletal class I relationship and normodivergent mandible. Patient was fitted a 2X4 fixed appliance which was successful in correcting the cross-bite and the rotation. An anterior bite plane was incorporated in Nance appliance and was successful in deep-bite correction by relative intrusion. Patient was followed up for one year when the second phase of orthodontic treatment started.

CONCLUSION
Early detection and treatment of malocclusion in certain situation will make the difference between achieving a satisfactory result by simple intervention against a prolonged treatment at later stage.

P38 Anterior Open-bite: Diagnosis, Interceptive Treatment and Follow-up Evaluation: Case report.
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INTRODUCTION
Diagnosis and treatment of open bite malocclusion challenges paediatric who attempt to intercept this malocclusion at an early age. Many different aetiologic factors are responsible for vertical malocclusion including thumb sucking, lip and tongue habits, airway obstruction, muscular dystrophy and true skeletal growth abnormalities. The identification of these factors is essential for the successful treatment.

BACKGROUND
An 8-year-old male patient was referred to by his paediatric dentist to the postgraduate clinic of Orthodontic at the Dental School, University of Athens for evaluation of his anterior open-bite. His parents mentioned prolonged pacifier sucking until 5 years old.

COMMENTS
On clinical examination the patient had slightly convex profile with normal vertical dimensions. Intraorally he had end to end molar relationship and presented anterior open-bite. In addition, he had unilateral posterior cross-bite due to functional lateral shift. It was mentioned forward posture of the tongue at rest and tongue thrust swallowing. Cephalometric analysis showed a skeletal class II, high mandibular plane Angle with normal lower face height. Dental measurements showed that maxillary and mandibular incisors had severe labial inclination. Treatment plan included removable appliance and functional exercises. The 3-years follow-up indicates the success of the treatment.
CONCLUSION
Many orthodontic problems are obvious in the mixed dentition years. The identification of these conditions and their causes is important for the appropriate treatment and the timing of intervention.

P39 Impaction of anterior teeth due to a dentigerous cyst on a 12 year old child: Case Report
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INTRODUCTION
A dentigerous or follicular cyst is an odontogenic cyst of developmental origin associated with the crown of an unerupted (or partially erupted) tooth. It is the second most common cyst of the jaws comprising 14–20% of all jaw cysts. It involves more often the mandibular 3rd molars and the maxillary canines and rarely occurs in children.

BACKGROUND
A 12-year-old Caucasian boy was referred to the postgraduate clinic of Paediatric Dentistry at the Dental School, University of Athens for dental examination due to delayed exfoliation of the upper left deciduous incisors and canine. In radiographic examination the permanent left incisors and canine were impacted, located at the upper side of a large cystic maxillary formation.

COMMENTS
Treatment plan, after consultation with the Oral and Maxillofacial Surgery and Orthodontics Departments, consisted of surgical removal of both the cyst and the involved permanent teeth under general anaesthesia. Intra-operatively, following extraction of the primary incisors, the cystic lesion was removed together with the permanent central and lateral incisors due to their unfavorable location. Histological examination confirmed the diagnosis of a dentigerous cyst. Fixed orthodontic appliance was placed at the upper arch, with acrylic teeth replacing the missing incisors. Eruption of the permanent canine is anticipated. At the 6-month recall the patient showed good healing process.

CONCLUSION
Clinical and radiographic examination of children with mixed dentition is very important for the early diagnosis of cystic lesions which may enlarge and jeopardize permanent teeth eruption.

P40 The Lingual Splint in the Management of Paediatric Mandibular Fractures: Case Series Report
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Private Oral and Maxillofacial Practice, Cyprus

INTRODUCTION
Treatment of mandibular fractures in children is controversial. Mandibular fractures are common facial injuries which occur twice as frequently as maxillary fractures.

BACKGROUND
In this study a case report is presented together with the results of long-term follow up in a series of young patients with mandibular fractures, treated by lingual splint.

COMMENTS
The presence of developmental dental follicles not only leads to irregular fracture lines but precludes the use of intraosseous fixation. Also, in cases of condylar fractures, the activating growth centers in the condyle can lead to facial deformities and possibly ankylosis.

CONCLUSION
The use of lingual splint is the treatment of choice of mandibular fractures in children.

P41 Solitary median maxillary central incisor syndrome with congenital nasal puriform aperture stenosis: Case Report with 14 years follow-up.
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Private Dental Practice, Athens, Greece

INTRODUCTION
Solitary median maxillary central incisor syndrome (SMMCI) is an extremely rare anomaly, especially when no other abnormalities are present. The defect is more frequently found together with various nasal abnormalities and short stature with/without
decreased levels of growth hormone. In more severe cases SMMCI has been associated with holoprosencephaly, the CHARGE and the VACTERL association. Also sporadic cases in the literature have been related with rare variants of ectodermal dysplasia, chromosomal abnormalities, precocious puberty, hypothalamic hamartoma, congenital heart defects, physical/mental retardation, genital hypoplasia, ear abnormalities. For these reasons when the initial diagnosis is made by the paediatric dentist, ENT, neurological and paediatric evaluation should be suggested.

BACKGROUND
A case with solitary upper central incisor in the primary and permanent dentition is presented, a four-year old boy with upper airway problems and surgery soon after birth due to congenital nasal puriform aperture stenosis.

COMMENTS
Incremental orthodontic treatment lasted from the age of 4 up to the age of 13. The upper right segment was moved backwards and anterior space was created to accommodate a second central incisor. Removable and fixed retainers with an acrylic central incisor were placed for aesthetic and functional replacement until the age of 16, where a fixed Maryland ceramic bridge was placed. Two years recall at the age of 18 revealed a satisfactory and stable result.

CONCLUSION
Successful dental management of SMMCI patients is possible, following a detailed long lasting treatment plan that requires multidisciplinary paediatric dentistry, orthodontic and prosthetic approach.

P42 Dentoalveolar parameters influenced by oral breathing in children
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University of Medicine and Pharmacy of Targu-Mures, Romania

AIM
The aim of this study was to verify the influence of oral breathing on the development of the dental arches and occlusion.

METHODS
The study included 43 patients from the Orthodontic Department of UMF Targu-Mures; 23 nasal breathers and 20 oral breathers. The exclusion criteria were: prior orthodontic treatment and proximal dental caries or restorations. Impressions were taken from all patients. The diagnosis and measurement were carried out on dental casts, from the same examiner, using a digital caliper. The observed parameters were: overjet, overbite, Angle class, inter-canine width, inter-molar width, arch length, palatal height. The presence of lateral cross-bites was also taken into consideration. The results were analysed using the nonparametric Mann-Whitney U test.

RESULTS
The mouth breathing children showed significantly decreased transverse arch dimensions (inter-canine and inter-molar width) and shortened dental arches. There were no significant differences between groups regarding the Angle class. Lateral cross-bites were more frequent in the oral breathing group.

CONCLUSION
According to the results from our study group, which are in agreement with previous data from the literature, the development of dental arches in children with oral breathing is altered.

P43 Delayed eruption of central incisors due to supernumerary teeth: Case report.
Yahav Sorella Sari
Pediatric Dental Clinic, Barzilai Medical Center, Ashkelon, Israel

INTRODUCTION
Delayed eruption of permanent incisors has different etiologies, supernumerary teeth is one of them. There are multiple theories explaining their occurrence. The presence of a supernumerary tooth can cause local disorders including retention of the permanent tooth, ectopic eruption, follicular cysts etc. Early diagnosis improves treatment results due to early exposure while the root still develops. When the surgery is delayed (after root development ends) there might be ankylosis or only partial exposure due to root dilaceration.

BACKGROUND
The patient, 9 year old girl, was referred to the Pediatric dental clinic with impaction of upper central Incisor. Radiologic investigation revealed the presence of supernumerary teeth. A complete Orthodontic-pedodontic diagnosis was done, planning the following treatment stages. The surgical exposure was done along with the orthodontic attachment to the incisor bud. The
surgically removed supernumerary teeth were diagnosed as a tuberculated type. Orthodontic treatment followed surgical treatment.

COMMENTS
This type of treatment starts at an early stage. In order to control eruption and guide the ectopic tooth to the alveolar dental arch a few requirements are needed. Early diagnosis, patient compliance and an interdisciplinary approach.

CONCLUSION
A successful treatment approach is presented. In using a skilled team involving the orthodontist-surgeon-pedodontist-parents and patient compliance was resulted to a successful eruption and treatment of the malocclusion.

P44 Clinical performance and survival of fixed space maintainers: A 7 year retrospective cohort study
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1Private Practice, Cyprus, 2Department of Paediatric Dentistry, Dental School, University of Athens, Greece

AIM
The aim of this study was to assess the survival and failure of fixed bilateral and unilateral space maintainers placed over a 7 year period.

METHODS
Patients who had fixed bilateral and/or unilateral space maintainers placed between September 1, 2001 until June 30, 2008 in the Postgraduate Department of Paediatric Dentistry, Dental School, University of Athens were included in the study. Data concerning the gender, the age, the type of the appliance, the cement used and the appliance longevity and treatment outcome were retrieved from the patients’ records. Observed treatment outcomes were, success, failure or loss to follow up. Descriptive statistics and survival analysis methods were used to analyse the data in this investigation.

RESULTS
A total number of 367 children participated in the study with a mean age of 7,5 years old, 212 were females and 155 were males. A total of 563 space maintainers were evaluated: 304 lingual arch appliances, 167 band and loop appliances and 92 Nance appliances. The treatment outcome was success in 60,4% (340 appliances), 24% (135 appliances) failed and 15,6% (88 appliances) lost to follow up. The most important failure reasons were: 1) cement loss, 2) breakage and 3) soft tissue lesion. The median survival time was: 1) lingual arch 28 months, 2) Nance 24 months and 3) band and loop 20 months, which was statistically significant (p<0,001).

CONCLUSION
The three types of space maintainers had different survival times, but the lingual arch had the highest one.

P45 Management of anterior tooth loss in a growing child: Two Cases Report
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Al-Nahdha Hospital, Sultanate Of Oman

INTRODUCTION
Anterior tooth loss in children is very common and many factors contribute to it, the most common factor is dental trauma.

BACKGROUND
A 10 years old boy was referred to Paediatric Dentistry department at Al-Nahdha Hospital by the oral surgery department for management of teeth 11,12,21,22. Clinical examinations indicated the teeth 11,12,22 non vital. The second case is an 11-year-old boy who was referred by an orthodontist for management of tooth 11. On clinical examination the tooth 11 was badly broken, non vital and with poor prognosis.

COMMENTS
With the first case, radiographic and clinically examination revealed the teeth 11,21,22 non vital. In the subsequent visits teeth showed signs of ankylosis and replacement resorption. After consultation with an orthodontist, autotransplantation of the impacted 15 and the horizontal impacted tooth 43 was carried out under general anesthesia and the tooth 15 was transplanted on 11 area, tooth 43 transplanted on the 21 area and decoration of the tooth 22. In the second case after clinical and radiographic examinations, the tooth 11 was found non restorable. After consultation with an orthodontist regarding premolar autotransplantation, it was agreed to transplant the tooth 25 in 11 area. The treatment was carried out under general anesthesia and the tooth 25 was autotransplanted in 11 area and was restored in the subsequent visits to match the tooth 11. There was a follow-up period of 4 years for the first case, and 30 months for the second case.

CONCLUSION
These case reports showed the long-term success of autotransplanted teeth.
P46 The efficacy of caries resin infiltration in patients with fixed orthodontic appliances
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AIM
To determine the efficacy and safety of the caries resin infiltration method in the treatment of initial caries lesion in patients with fixed orthodontic appliances

METHODS
In this study the following materials were used: 15% hydrochloric acid Icon-Etch, braces systems: Clarity SL (3M ESPE), Smart clip (3M ESPE), Dimond (Ormco), Innovation (Densply GAC), Master T orthodontist and buccal tube (3M ESPE). Braces are treated with 15% hydrochloric acid for 2 and 6 minutes - the minimum and maximum amount of time recommended by the manufacturer. A visual assessment of the destruction and deformation of the objects with the optical zoom X 50 and in accordance with ISO 6509 was performed.

RESULTS
It was found that the effect of 15% hydrochloric acid for 2 minutes did not cause visual changes in any of the systems. The impact of 15% hydrochloric acid for 6 minutes on metal braces Smart clip (3M ESPE), Dimond (Ormco), Innovation (Densply GAC) and the buccal tube (3M ESPE) did not cause visual changes of material, while the Clarity bracket SL (3M ESPE) were identified changes colors - from white to dull gray; transparency - has become less transparent and purchase unusual for shine. The metal braces orthodontist Master T showed signs of corrosion.

CONCLUSION
Stage during etching method of infiltration is not corrosive braces different materials and systems in compliance with the recommendations on the application, ie the caries resin infiltration is safe for treatment of initial caries lesions in patients with fixed orthodontic appliances.

P47 Clinical and radiographic evaluation of the temporomandibular joint in children with juvenile rheumatoid arthritis
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AIM
To improve the effectiveness of the rehabilitation of children with juvenile rheumatoid arthritis through early diagnosis of destructive changes in the articular processes of the temporomandibular joint.

METHODS
We examined 150 children (63 boys and 87 girls) aged 6 to 16 years (mean age 11 years) diagnosed with JRA. All study cases were divided into groups depending on the type of the underlying disease. Patients underwent a comprehensive orthodontic examination and an evaluation of the clinical dysfunction index (Helmiko. M 1976) and the destruction stage of the TMJ articular process (Billiau AD, and all 2009).

RESULTS
In patients with polyarticular option TMJ dysfunction was observed in 31.7% of cases. Erosive lesions of the articular process were observed in 14.6% patients. Destructive changes in TMJ were of a bilateral nature of the fracture (70.7%). In the group with oligoarticular type TMJ, destructive changes were rare (10.2%). In the group of patients with a Still TMJ variant, all patients presented symptoms in TMJ. Studying the destructive changes in condyle in this group of patients, a total destruction of the articular process, bilateral was present (n = 10, 90.9%)

CONCLUSION
During examination children with juvenile rheumatoid arthritis should perform early radiological diagnosis of lesions of the TMJ, since in the absence of clinical symptoms often destructive, there are marked changes in the articular processes.
**P48 Evaluation of caries risk assessment tools in orthodontics patients**

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**AIM**

To improve the effectiveness of orthodontic care through a systematic approach of assessing the risk of caries at different stages of orthodontic treatment.

**METHODS**

The study involved 25 patients aged 15 to 18 years with the risk assessment of dental caries Cariogram (WHO) and CAT (ADA) at different stages of orthodontic treatment. Analysis of the dynamics of the risk of caries and identification of the critical periods in the development of caries in different stages of orthodontic treatment, were performed.

**RESULTS**

One month after the fixing brackets, caries risk in most patients decreased from baseline values. Three months later, there was a slight increase in the risk of caries; however, figures reach the original values. After 6 months in most patients the caries risk reaches the maximum performance and the patients needs the special care with dental hygienist.

**CONCLUSION**

Based on these results, we concluded that in the course of orthodontic treatment caries risk varies depending on the time of treatment and at six months is highest indicating a decline in the patient’s motivation to perform routinely oral hygiene and requires tuning their hygiene skills on, both by the doctor and the hygienist. Based on these data, we developed an algorithm prevention of dental caries in patients undergoing orthodontic treatment, taking into account risk assessment techniques for caries Cariogram (WHO) and CAT (ADA).

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**P49 Orthodontic management of transported canines in mixed dentition: Case report.**

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**INTRODUCTION**

Transposition is a unique and extreme form of ectopic eruption in which a permanent tooth develops and erupts in the position normally occupied by another permanent tooth. The term transposition refers to an interchange in the position of two adjacent teeth within the same quadrant of the dental arch. The incidences of tooth transpositions have been reported to be about 0.4%. These occur more commonly in the maxilla than mandible, with more occurrences unilaterally with greater predilection toward left side. Tooth transpositions are more commonly observed in females. Maxillary permanent canine happens to be the tooth most commonly involved.

**BACKGROUND**

The purpose of this poster is to present the orthodontic management of bilaterally transposed permanent maxillary canines and laterals, during mixed dentition, of a 10 years old Caucasian girl.

**COMMENTS**

Therapeutic management of the transposed teeth was combined with orthodontic treatment of a Class II Division 1 malocclusion. Non-extraction orthodontic treatment with fixed appliances was applied. At the end of treatment ideal occlusal and skeletal relationships as well as aesthetics were achieved.

**CONCLUSION**

Successful management of transposed teeth can be challenging in a clinical practice.
Exhibitors

1. GREGORIS HADJIGREGORIOU LTD
2. PETROS LOIZOU LTD
3. DENTALCOM - PAPAZOGLOU
4. KSP DENTALCARE LTD
5. EVOLUTION LTD
6. COSTAS PAPAELLINAS ORGANIZATION
7. MYOBRACE ORTHODONTICS
8. LMACTIVATOR
9. M. VITSAROPOULOS
10. M.S.JACOVIDES
SOCIAL PROGRAMME

Gala Dinner

Date: 19th April 2013

Venue: Karatello Restaurant

Info: The restaurant is situated in “The Carob Mill” overlooking the Lemesos Medieval Castle. “The Carob Mill” consists of an old Carob Mill and some warehouses which were originally built in the early 1900s when carobs were one of the main exports of Cyprus. Now restored it has become a multi functional centre, housing the Carob Mill Museum, The Evagoras Lanitis Cultural Centre and some restaurants.

It will be a delightful evening and a party which will always be remembered. Great food, music and lots of dancing!!! A full experience of the Cypriot Hospitality.

During the pre dinner cocktail you will be able to enjoy an exhibition of underwater photographs by our colleague orthodontist Petros Kokkinos and the money proceed will be donated to the Cyprus Red Cross Children Therapy Centre.

Dress code: Put on your glad-rags and ENJOY!!!!!

Tours and Sightseeing

19/04/13 - Full Day Tour to the Wine Villages of Lemesos (Krasochoria Lemesou)

Driving through the citrus groves of Phassouri we arrive at the Kolossi Castle. Build by the Crusaders in the 13th century, this well-preserved building stands three stories tall and it is a good example of military architecture of that period. We continue our tour with a visit to the Wine Museum of Cyprus. Here in a nicely constructed building with stone and tiles you can learn about the history of winemaking in Cyprus, taste and buy a range of Cyprus wines.. As we drive on upwards passing by pretty villages and beautiful countryside we will then stop at Ayios Ambrosios village for free wine tasting at a local winery and an intimate behind-the-scenes look at the fascinating winemaking process. One of the most picturesque villages is Omodos surrounded by vineyards, famous for its true Cypriot architecture with beautifully restored buildings, its old wine press, known as “Linos”, and the monastery of the Holy Cross. Standing by the stone paved square, the monastery is known for its collection of interesting ecclesiastical objects. You will have time to stroll around the narrow streets of the village, visit the old wine press and taste some local wines. In the village there are small shops famous for their “vitraux”, handmade pieces of stained glass, icons, handmade jewels and embroidery all traditionally made. Lunch will be offered at a Traditional Tavern. On the return journey we will stop at Lania, the traditional artists’ village.

Comfortable walking shoes recommended as some walking is involved.

Subject to a minimum of 15 participants.
19/04/13 - FULL DAY KOURION - PAPHOS, APHRODITE’S BIRTHPLACE

Today you can discover the legends and history of one of the most beautiful areas in Cyprus. Driving through the vineyards and citrus plantations of Fasouri our first stop will be the ancient city of Kourion, an impressive Greco-Roman unspoiled site which includes mosaics and a superb amphitheater. From this beautiful, unspoiled spot perched high on a cliff, enjoy the dazzling view of the ruins and the sea below. The next stop will be at Aphrodite’s Rock, where according to legend the Goddess of Love and Beauty was born from the foam of the sea. Your journey continues to Paphos where you will discover one of the most beautiful places on the island. Paphos, with its pleasant harbour and Medieval Fort, combines a cosmopolitan holiday resort, spectacular countryside and historical sites. It was the capital of Cyprus for 600 years in ancient times and its archaeological legacy is such that UNESCO put the whole town on its World Cultural Heritage List. Your tour will then lead you to the famous “Tombs of the Kings” one of the major archaeological attractions of Paphos. These monumental underground tombs carved out of solid rock date back to the 4th century BC. and some are decorated with Doric pillars. Our next visit will be at the Paphos Mosaics. House of Dionysos, House of Theseus, House of Aion and the House of Orpheas. The mosaic floors of these Houses date from the 3rd to the 5th century AD and are considered among the finest in the Eastern Mediterranean. They depict scenes from Greek Mythology and are considered masterpieces of mosaic art. Lunch will be offered at a Traditional Taverna.

Comfortable walking shoes recommended. Subject to a minimum of 15 participants.

20/04/13 - HALF DAY TOUR TO KAKOPETRIA VILLAGE - BYZANTINE CHURCHES

Today you can discover a treasure trove of Byzantine art. Passing below the Olympus peak of the Troodos Mountains, our first stop will be the church of Agios Nicholaos tis Stegis (St. Nicholas of the Roof). The church is covered entirely in wall paintings dating from the 11th to the 17th centuries and is considered one of the most interesting Byzantine churches on the island. Moving on to Galata village we will first visit the church of Panagia Podithou. The church was built in the 15th century and its paintings are of the Italo-Byzantine style. We will then visit the church of Archangelos Gavriel (or Panagia Theotokos) which is painted in the post-Byzantine style of the early 16th century. All three churches are listed UNESCO World Heritage Sites. Our next stop is the medieval village of Kakopetria, which still retains its charm and beauty, marvel at the folk architecture of the old dwellings and the old restored water powered flourmill. Here the old quarter of the village has been declared a protected area, and traditional houses have been beautifully restored. You will have time to walk around the village, and enjoy your coffee or tea at a traditional coffee shop accompanied by local sweets.

Comfortable walking shoes recommended as some walking is involved. Conservative attire is recommended when visiting the religious sites. No exposed shoulders or knees; short pants and tank tops are not acceptable.

Subject to a minimum of 15 participants.
20/04/13 - Half Day Walking Tour of Limassol Old Town

This is a stroll through the historic part of the Old Town of Lemesos. We will first visit the Medieval Castle and Museum. The castle was built in the 14th century on the site of an earlier Byzantine castle. It is here that according to tradition, Richard the Lionheart married Berengaria of Navarre and crowned her Queen of England. Inside the castle is the Cyprus Medieval Museum, Walking around the traditional commercial area of the old town we will stop at the recently renovated covered market where scents and colours of the Cypriot countryside merge with the aroma of ground coffee and fresh fish from the morning’s catch. Here we will be able to try and buy some local products. We will then continue our walk north where we will visit some Pottery Workshops and Art Galleries.

Comfortable walking shoes recommended as some walking is involved. Subject to a minimum of 15 participants.