



# **SRI LANKA ORTHODONTIC CONFERENCE 2020**

**“Enhancing Dentofacial Aesthetics and Function”**

## **ABSTRACT BOOK**

**21<sup>st</sup> to 23<sup>rd</sup> February 2020  
@Hotel Galadari  
Colombo, Sri Lanka**



# **SRI LANKA ORTHODONTIC CONFERENCE 2020**

**“Enhancing Dentofacial Aesthetics and Function”**

## **ABSTRACT BOOK**

21<sup>st</sup> to 23<sup>rd</sup> February 2020  
@Hotel Galadari  
Colombo, Sri Lanka

# Contents

SLOS Council (Photograph) 3

SLOS Council 4

## Messages

- President, SLOS 5
- Chairman, Scientific Committee 6
- Chief Guest 7
- Guest of Honour 8

Pre-Conference Workshop 9

Program at a glance 11

Guest Speaker profile and Lecture summaries 13

Abstracts of Free Papers 29

Abstracts of Posters 35

Acknowledgements 44

Notes 45

# Council of Sri Lanka Orthodontic Society



Seated (from Left to Right) Dr (Ms) A S Basnayake, Dr W M Senadeera (Immediate Past President), Dr K Paranthamalingam (President), Dr R K Dissanayake (President elect), Dr (Ms) P S Wanigaratne (Secretary). Standing (from Left to Right) Dr (Mrs) U Wickramasinghe, Dr A W Indaka Ubeyesiri (Editor), Dr (Mrs) S Priyarubini, Dr Sumith L Pathirage (Treasurer), Dr (Mrs) A Rajagamesh.

## **Council of the Sri Lanka Orthodontic Society**

**Dr K Paranthamalingam  
President**

**Dr R K Dissanayake  
Chairman, Scientific Committee**

**Dr W M Senadeera  
Immediate Past President**

**Dr (Ms) P S Wanigaratne  
Secretary**

**Dr Sumith L Pathirage  
Treasurer**

**Dr A W Indaka Ubeyesiri  
Editor**

**Council Members**  
**Dr (Mrs) S Priyarubini**  
**Dr (Ms) A S Basnayake**  
**Dr (Mrs) A Rajaganesh**  
**Dr (Mrs) U Wickramasinghe**

## Message from the President, Sri Lanka Orthodontic Society



It is indeed a great pleasure and privilege to welcome all of you to the Sri Lanka Orthodontic Conference 2020 which is held at Hotel Galadari, Colombo on 22nd and 23rd of February 2020 and the Pre-conference workshop on Interdisciplinary Treatment on 21st of February 2020.

Today our patients who seek orthodontic treatment are concerned with improvement of their dental and facial appearance and quality of life in addition to the improvement of their oral function or health. With these in mind we have chosen the theme of the SLOC 2020 as “ENHANCING DENTOFACIAL AESTHETICS and FUNCTION”.

This conference is the grand finale of all the academic activities held during my tenure of office as the president of this prestigious organization. I am certain the program which has been organized, would provide ample opportunity to the participants to share their experiences, enhance their knowledge, gather information, meet friends and make acquaintances with new professionals.

I take this opportunity to welcome Dr Anil Jasinghe, Director General of Health Services, Sri Lanka and Dr Mithran Goonewardene, Discipline Head and Program Convener, Orthodontics, University of Western Australia to the inauguration ceremony and extend my sincere gratitude to them for honouring our invitation and for officiating as chief guest and guest of honour and Dr N R Krishnaswamy, Professor and Head, Department of Orthodontics and Vice Dean, Ragas Dental College and Hospital, Chennai, India, the Dr Sanmuganathan Sivasubramaniam Orator respectively for the occasion. I also wish to welcome and thank all invited guests and participants at this occasion.

I also take this opportunity to welcome all the local and overseas distinguished speakers, all the delegates, the sponsors and the trade exhibitors to the conference and express my sincere gratitude to all of them. I also wish to thank many people who have contributed to organize this conference including the current SLOS Council and the Event manager of this conference Asia Tours Pvt Ltd.

I wish all the Resource personnel, Conference delegates, Sponsors, the Event manager of this conference and the Management of Hotel Galadari success in their endeavours.

**Dr. K. Paranthamalingam**  
BDS, MS Ortho., MOrthRCSEd, FDSRCSEd  
President/ Sri Lanka Orthodontic Society  
Chairman/Organizing Committee SLOC 2020

## Message from the Chairman, Scientific Committee



My dear Colleagues,

It gives me great pleasure and a deep sense of pride to release this message on the theme “Enhancing Dentofacial Aesthetics and functions.” for our forthcoming Orthodontic Conference 2020. We have organized a very carefully planned program to suit our theme and have a line of foreign and local speakers to speak to us on the most current advances in Orthodontics.

With this theme, this Congress can only be described as a work of passion and the culmination of the long-time dedication, commitment and drive that we as the congress organizing committee have put in to it.

We have not only worked hard but smart to achieve this standard. The speakers’ list which boasts the “Who’s Who” in orthodontics promises nothing less than the best of what orthodontics has to offer only academically but also on the clinical front is proof of this. The most touching point for us was that all the speakers agreed to come and offer the support, give us their encouragement and be present to share with all of us the many decades of orthodontic experience between them – without any conditions attached.

I take this opportunity to express my gratitude to all the speakers from overseas and our own who will in great measure update the participants and induce in them a lot of fresh thinking on the road of perfection.

I wish to thank everyone in the organizing committee for all their efforts to make this event a success.

**Dr. Ratnakumara Dissanayake**

BDS( Cey ) ; MS Orth ( Col ) ; MOrthRCS( Edin ) ; FDSRCS ( Edin )

Consultant Orthodontist,

Sirimavo Bandaranayake Specialized Childrens’ Hospital,

Peradeniya.

## Message from the Chief Guest



It is with great pleasure I write this message as the Chief guest at the Ceremonial event to mark the Sri Lanka Orthodontic Conference 2020 and the 3<sup>rd</sup> Dr Sanmuganathan Sivasubramaniam Oration at Hotel Galadari, Colombo on 22nd February 2020. I feel privileged and honoured to have had such an invitation bestowed upon me. Therefore, I wish to convey my heartfelt gratitude to the President and the council of the Sri Lanka Orthodontic Society and the organizing committee of the Sri Lanka Orthodontic conference 2020.

I understand that Orthodontics is a specialized field of Dentistry which treats malocclusions of teeth and facial deformities. Orthodontists are dedicated to making people look better so that they have better perspective in life. The Sri Lanka Orthodontic Society is the professional organization of the Sri Lankan Orthodontists.

Scientific events such as this orthodontic conference sessions are the ideal forum to share ideas and learn from each other. I am encouraged to learn about the effort of the orthodontic profession to strive for the highest ideals in dedication and service in Orthodontics with cooperation of Ministry of Health and other relevant bodies. Sri Lanka Orthodontic Society always promotes its members to update their knowledge and thereby improve the service they render to the patients.

From a global perspective, Sri Lanka Orthodontic Society is a highly respected and an active affiliate member of the World Federation of Orthodontists (WFO) and the Asia Pacific Orthodontic Society and contributes significantly to the betterment of the field of Orthodontics.

While wishing every success at the 9th scientific sessions which will surely provide all the delegates with useful and advanced knowledge and skills in orthodontics under the theme “ENHANCING DENTOFACIAL AESTHETICS and FUNCTION”, I take this opportunity to wish the Sri Lanka Orthodontic Society all the success in its future endeavours too.

**Dr. Anil Jasinghe**  
Director General of Health Services  
Ministry of Health, Sri Lanka

## Message from the Guest of Honour



I really appreciate being honoured at this 2020 Sri Lankan Orthodontic Congress. It gives me great pride to see the development of orthodontics in Sri Lanka over the past 3 decades. The Postgraduate Institute of Medicine must be acknowledged for their foresight in funding traineeships to prepare orthodontists to serve the country in public service. Moreover the Health Department has funded establishment of numerous clinical departments even in remote regions of the country. After many years of having to seek essential treatment in Colombo and Kandy, the community is now served by well trained clinicians.

The SLOS has also established robust processes to encourage development of the speciality and engage the international community and Sri Lanka has many friends and supporters who have enjoyed the hospitality and collegiality of the small but enthusiastic group. I congratulate all the members and particularly those who have taken it upon themselves to contribute and make a difference. I wish the Committee and the SLOS every success for the current and future meetings.

**Dr. Mithran Goonewardene**

BDS Sc WA., MMedSc Harv., CertOrth Harv FICD FADI



# PRE-CONFERENCE WORKSHOP

Interdisciplinary Treatment

21<sup>st</sup> February 2020

Registration: 8.30 am - 9.00 am

Workshop: 9.00 am - 4.30 pm

Venue: Salon Orchid, Hotel Galadari



## Speakers and Lecture Information



**Dr Mithran Goonewardene**

BDS<sub>c</sub>(West.Australia) MMedSc(Harvard)  
Cert.Orth(Harvard/Forsyth) FICD FADI



**Dr Jane McCarthy**

BDS<sub>c</sub>(Hons) Sydney, MDS<sub>c</sub> (Melb)

### Presentation Titles

1. Interdisciplinary Treatment –Principles of Management
2. The impact of orthodontic tooth movement on the tissues of the periodontium in health and disease.
3. Interdisciplinary Management of the Worn Dentition
4. Periodontal implications of arch expansion
5. Interdisciplinary Management of Complex Cases

## Conference Programme - Day 1

Saturday 22<sup>nd</sup> February 2020

8.00 am - 8.30 am	Registration	
8.30 am - 9.00 am	Opening ceremony	
	Speaker	Topic
9.00 am - 9.45 am	Dr Mithran Goonewardene	Can Orthodontics be Accelerated?
9.45 am - 10.30 am	Dr S Prem Premaraj	Role of Orthodontics in Interdisciplinary Management of Esthetic problems: Integrating Tooth Movement to Enhance Restorative and Periodontal Objectives
10.30 am - 11.00 am	Tea	
11.00 am - 12 Noon	Dr Jim Hartsfield	Should Functional Appliance Studies Incorporate Genetic Marker Analysis?
12 Noon - 12.45 pm	Dr Jane McCarthy	When gums go bad in paediatrics
12.45 pm - 1.30 pm	Lunch	
1.30 pm - 2.10 pm	Dr P Palipana	Dentofacial Aesthetics – Restorative considerations
2.10 pm - 2.50 pm	Dr Ajit J Kalia	Efficient Molar Distalization using Skeletal Anchorage
2.50 pm - 3.35 pm	Associate Prof Charunee Khuttamarsri (Rattanayatikul)	Orthodontic approaches in relation with alveolar bone graft reconstruction in CLP patients
3.35 pm - 4.20 pm	Prof Abbas Zaher	Management of Impacted and Transposed Canines
4.20 pm	Tea	

**6.30 pm - Ceremonial event to mark  
Sri Lanka Orthodontic Conference 2020**

Dress code: Lounge/National  
All delegates, speakers and special invitees

## Conference Programme - Day 2

Sunday 23<sup>rd</sup> February 2020

8.00 am – 8.30 am	Registration	
	Speaker	Topic
Free Paper Session		
8.30 am - 8.45 am	Prof Gulshan Kumar Singh	Management of a rare syndrome with unusual dental findings: oculo-facio-cardio-dental syndrome
8.45 am - 9.00 am	Prof V Sudhakar	Fast lane in orthodontics - our experience
9.00 am - 9.15 am	Dr R Ramya	Paradigm shift in eruption chart - a cross sectional study
9.15 am - 9.30 am	Dr K Mahalakshmi	Evaluation of infra zygomatic bone thickness in different cervical vertebrae maturation stages for placement of orthodontic mini implants using CBCT
9.30 am - 9.45 am	Dr W Mithula	Orthodontic treatment related awareness of patients attending the Orthodontic Unit, National Dental Hospital, Sri Lanka
10.00 am - 10.20 am	Tea	
10.20 am- 11.00 am	Dr S Prem Premaraj	Clinical Management of Patients with Cleft Lip and Palate: Role of Orthodontists
11.00 am - 11.45 am	Dr Anil Ardeshta	Management of Skeletal Discrepancies in Growing Children
11.45 am - 12.30 pm	Dr N R Krishnaswamy	Non – Surgical Maxillary Expansion in Adults – Facts and Fallacies
12.30 pm - 1.30 pm	Lunch	
1.30 pm - 2.10 pm	Prof Amit Nagar	Class III Malocclusions- Accept the challenge
2.10 pm - 2.50 pm	Dr Sumithra Hewage	Enhancing Dentofacial Aesthetics - Starting with the end in mind
2.50 pm - 3.30 pm	Dr T Sabesan	Orthognathic surgery – “Art and Science of Facial Sculpting Surgery”
3.30 pm - 4.00 pm	Tea	
4.00 pm - 4.45 pm	Dr Mithran Goonewardene	Smoke and Mirrors with New Technology in Orthodontics
4.45 pm	Closing ceremony	



**SPEAKERS' PROFILES**  
**and**  
**LECTURE SUMMARIES**





**Dr Mithran S Goonewardene**  
BDS (West.Australia) MMedSc (Harvard)  
Cert.Orth(Harvard/Forsyth) FICD FADI  
Head of Orthodontics and Graduate Programme  
Director  
University of Western Australia  
Australia

## CAN ORTHODONTICS BE ACCELERATED?

Contemporary orthodontic practice appears to be influenced by many technique-related factors such as the type of appliances, adjunctive surgical procedures and technological processes. Increasing the speed of the treatment process appears to have received significant attention, yet the fundamental decision processes in planning treatment that is customized for the specific patient rather than a universal application of a technological process. Dr Goonewardene will discuss the key decision-making processes to achieve success from the clinicians' and patients' perspective. The selective use of efficient mechanics, surgical interventions and temporary anchors will be explored and demonstrated with a discussion of the evidence to support/refute the purported mechanisms to enhance the overall speed of orthodontic treatment.



**Dr S Prem Premaraj**  
BDS, MS, PhD, FRCD(C)  
Associate Professor and Graduate Program Director  
Vice-Chair, Dept of Growth and Development  
Henry and Anne Cech Professor of Orthodontics  
Orthodontic Section  
University of Nebraska Medical Center  
College of Dentistry, USA

## **ROLE OF ORTHODONTICS IN INTERDISCIPLINARY MANAGEMENT OF ESTHETIC PROBLEMS: INTEGRATING TOOTH MOVEMENT TO ENHANCE RESTORATIVE AND PERIODONTAL OBJECTIVES**

### Lecture Description:

Orthodontic tooth movement can be used to establish an optimal foundation for functional and esthetic restorations. This presentation will highlight the benefits of an interdisciplinary approach with an emphasis on prescription orthodontics to enhance restorative and periodontal objectives.

### Lecture objectives:

The participants will learn about:

- The differences between adolescent versus adult orthodontics
- The common dental problems that exist in adult patients requiring restorative and periodontal procedures
- How adjunctive orthodontics managed in an interdisciplinary manner can help the general dentist to produce exceptional restorative/periodontal outcomes for the above dental problems in their adult patients.
- How to manage gingival levels to obtain best esthetic outcomes by choosing between orthodontic tooth movement, periodontal surgical intervention or both.



Dr James Hartsfield  
E. Preston Hicks Endowed Professor of  
Craniofacial Genetics  
Orthodontics and Oral Health Research  
University of Kentucky College of Dentistry  
USA

## SHOULD FUNCTIONAL APPLIANCE STUDIES INCORPORATE GENETIC MARKER ANALYSIS?

**Abstract:** The use of functional appliances in the prepubertal and pubertal patient has yielded a wide degree of variability in outcomes. Even among the most compliant patients, the reason for these differences in appliance responsiveness from patient to patient are not well understood. Interestingly, several genetic markers have been identified which associate with mandibular retrognathism, differences in the adult size of the maxilla and mandible, as well as with variations in jaw growth velocity during puberty. This begs the question: Would studying the genetic markers that are associated with facial growth variation in the context of functional appliance outcomes help to explain some of the observed clinical variation? By studying genetic variation in the context of functional appliance responsiveness, we may be able to identify the individuals most likely to experience long-term effects from appliance use. How could the influence of genetics versus the influence of the functional appliance be studied? In addition, how could one investigate “gene-environment” interactions that together provide a synergistic effect on growth when patients with a specific genetic marker pattern use a functional appliance? This presentation will review these questions and propose retrospective and prospective protocols to answer them.

After the lecture the attendee will be able to:

1. Appreciate the variance in outcome short and long-term when using functional appliances.
2. Understand some of the genetic factors in the “normal” variation of facial growth velocity.
3. Describe how a research protocol involving functional appliances and genetic markers could account for some of the unknown source of variation in facial growth.



Dr Jane McCarthy  
BDS(Hons) Sydney, MDS(Melb)  
Australia

## WHEN GUMS GO BAD IN PAEDIATRICS

First described in 2007 as a separate pathological lesion, Localised Spongiotic Gingival Hyperplasia is often seen in orthodontic patients. Once you know what it is you will either have a flashback to that weird looking isolated bright red gingival lesion that just didn't look like anything else you have ever seen or you will see one in your practice next week and have a light bulb moment to feel good about. As a periodontist in private practice for over 20 years and being very involved in orthodontic surgery I had biopsied these lesions for years and was never really convinced about the histopathological diagnosis reported as it never really seemed to fit the clinical appearance. One case in October 2015 changed everything for me, my referrers and my patients leading me to discover this new lesion and its interesting story. That was just the beginning and the presentation will give the audience practical knowledge and confidence in diagnosis and management of LJSFH in their patients.



**Dr Priyake Palipana**  
BDS, MS, FRACDS (Australia)  
Consultant in Restorative Dentistry  
CSTH Kalubowila and Sri Lanka Navy

## DENTOFACIAL AESTHETICS – RESTORATIVE CONSIDERATIONS

Demand to dental treatment has enormously increased. One of the commonest reason for the increased demand is improvement of Dental aesthetics. Dentofacial Aesthetics plays a pivotal role in an individual's image and personality. There are multiple ways of improving facial aesthetics but at times it will have to be finally camouflaged or fine-tuned with Restorative means. Smile diagnosis determining the patient concerns, existing problems, should all be done prior to beginning of any treatment. The challenges should be identified and the road map to successful aesthetic outcome should be designed together by the multidisciplinary team.

Similar to proportions in the face the proportions in the different counterparts of the dentition have to be pleasing for an excellent aesthetic outcome. Symmetry plays a major role in final aesthetics which has to be planned at the beginning. Smile line and its determination is very critical in a pleasing smile. If the smile line is high with a gummy appearance restorative and prosthetic treatment becomes very challenging. Emergence profile plays a key role in them especially in implant retained prosthesis in the smile zone.

Towards the latter part of orthodontic treatment the final tuning and outcome may need further enhancement with Restorative means This prerequisites lot of diagnostic mockups in achieving best results.



Dr Ajit Kalia  
Professor and Head at Department of Orthodontics  
M.A. Rangoonwala College of  
Dental Sciences and Research Center  
Pune  
India

## EFFICIENT MOLAR DISTALIZATION USING SKELETAL ANCHORAGE

Mini-implants have gained significant traction in the orthodontic community over the past few years, as they help the clinician to achieve absolute anchorage control thereby minimizing unwanted movements and reducing overall treatment time. They can be easily placed and removed, are small in size and cost effective.

The need to eliminate extractions in Class II cases can often be achieved by various methods of gaining space. Molar distalization is the preferred method of choice in such cases, and is widely accepted as it helps to avoid extractions.

Conventional extraoral appliances used for molar distalization pose the problem of patient compliance. Hence, several non-compliance intramaxillary and intermaxillary devices have been introduced to bring about this movement. But, according to Antonarakis and Kiliaridis, intramaxillary molar distalization appliances distalize molars with a resulting loss of anchorage, with both buccal and palatal acting appliances. This loss of anchorage leads to unwanted mesial movement of incisors and premolars. This drawback prevented the technique from being used frequently in the past.

But, with the advent of mini-implants, the problem of anchorage loss is no longer a deterrent. Effective distalization of posteriors as well as anteriors can be carried out with minimal reciprocal forces, thereby increasing the amount of molar distalization as well as accelerating the overall treatment.

Hence, this presentation aims to showcase the effects and efficiency of maxillary and mandibular molar distalization with the help of mini-implants.



**Dr Charunee Khuttamarsri (Rattanayatikul)**  
DDS (Thailand), MDS in orthodontics (Sydney)  
Associate Professor  
Private Orthodontic practice  
Part Time Volunteer Orthodontist in  
cleft lip/palate clinic  
Khon Kaen University, Thailand

## **ORTHODONTIC APPROACHES IN RELATION WITH ALVEOLAR BONE GRAFT RECONSTRUCTION IN CLP PATIENTS**

Objective of this lecture is to repair of the alveolar bone cleft helps to restore dental arch continuity, stabilize the maxilla, facilitate subsequent orthodontic treatment, and provide support to soft tissue structures. Secondary alveolar bone grafting prior to canine eruption is considered the standard procedure for patients with cleft lip and palate in most cleft lip and or palate care centers. The reconstruction age is between 9-11 years. There are a number of factors influencing the outcome of ABG. The age at which bone grafting is undertaken is probably the most important predictor of success of the outcome. "There is no precise recommended chronological age." Monitoring of chronological age and dental age help to guide for "the optimal time" The sequencing of orthodontic and surgical treatment should be based on the individual patient. The objective of this lecture to focus on the strategy of monitoring for timing planning and Orthodontic approaches in preparation for the alveolar bone graft reconstruction.



Dr Abbas Zaher  
DDS, MS, PhD  
Professor  
Department of Orthodontics  
Alexandria University  
Egypt

## MANAGEMENT OF IMPACTED AND TRANSPOSED CANINES

Ectopic teeth are not an infrequent encounter in orthodontic practice. These cases could be encountered in a variety of situations and impaction, transposition and mal-position are only examples. The orthodontist is sometimes faced with a variety of treatment options and the decision is usually based on the position and the risk factors.

Treatment plan for complete transposition of the canine often entails keeping the canines in its erupting position, accepting the transposition and finishing the treatment accordingly and in conjunction with other complementary dental procedures. The great antero-posterior distance of canine movement in order to correct the teeth order in cases of complete transposition is sometime a challenge. Factors that will help potentiate the success of correction should be carefully considered while planning the treatment of such cases.

The orthodontists should be able to handle and is responsible for dealing with each and all of these issues.



Dr S Prem Premaraj  
BDS, MS, PhD, FRCD(C)  
Associate Professor and Graduate Program Director  
Vice-Chair, Dept of Growth and Development  
Henry and Anne Cech Professor of Orthodontics  
Orthodontic Section  
University of Nebraska Medical Center  
College of Dentistry, USA

## CLINICAL MANAGEMENT OF PATIENTS WITH CLEFT LIP AND PALATE: ROLE OF ORTHODONTISTS

### Description:

Children born with Cleft lip and palate present with multiple medical and dental problems. The deformity usually affects skeletal and soft tissue elements which often affects occlusion, facial symmetry and esthetics. This presentation will highlight the role of orthodontists and pediatric dentists in the inter-disciplinary management of patients born with cleft lip and palate.

### Learning objectives:

The participants will learn about:

- Descriptive epidemiology and etiology of Cleft lip and Palate
- The common medical and dental problems that exist in patients with Cleft lip and palate
- The role of orthodontists in the interdisciplinary management of patients with cleft lip and palate



Dr Anil Ardeshta  
DMD MDS  
Associate Professor  
Post graduate program Director  
Research Director  
Department of Orthodontics  
Rutgers School of Dental Medicine  
USA

## MANAGEMENT OF SKELETAL DISCREPANCIES IN GROWING CHILDREN

**Synopsis:** Dento-facial orthopedics plays an important role in achieving optimum occlusion, function and aesthetics. This topic has been discussed often in professional journals and clinical meetings without much evidence based research that has led to confusion for the common practitioner. The speaker will discuss which types of malocclusions are best treated early and which are best managed during the circumpubertal growth period or later. Treatment protocols and the use of various removal and fixed appliances will be presented.

**Lecture Objectives:**

At the end of this lecture, the participant will understand the treatment timing and options for:

- Class II malocclusions
- Class III malocclusions
- Transverse discrepancies



Dr N R Krishnaswamy  
Vice principal, Professor and Head, Dept. of  
Orthodontics,  
Ragas Dental College and Hospital, Chennai  
India

## NON –SURGICAL MAXILLARY EXPANSION IN ADULTS – FACTS AND FALLACIES

Rapid palatal expansion is a proven approach to correct Maxillary transverse deficiency in children and adolescents.

However its efficacy is of questionable value in adults because of the maturation of the mid palatal and circum -maxillary sutures. Surgically assisted expansion is an option in adults, which though viable is not a preferred choice by patients. In recent years Mini screw assisted Rapid palatal expansion has been proposed as an attractive alternate. Several designs and protocols have been advocated and variable outcomes have been reported. The rationale, design and treatment outcome and limitations of one such expander will be discussed with scientific evidence and illustrative cases.



Dr Amit Nagar  
Professor  
Dept. of Orthodontics and Dentofacial Orthopaedics  
Faculty of Dental Sciences  
King Georges Medical University  
Lucknow  
India

## CLASS III MALOCCLUSIONS - ACCEPT THE CHALLENGE

Class III malocclusion has always been a challenge since long for the orthodontists specially when mandible is larger in size and anteriorly placed. Skeletal pattern, dental factors, soft tissues, specific conditions, and familial tendency have been found to play an important role in aetiology. Patient is figured out easily due to concave facial profile, a retrusive nasomaxillary area, prominent lower third of the face, and reduced or reversed overjet. Factors considered while treatment planning include patient concern about the problem, severity of skeletal pattern, amount of expected pattern of future growth, degree of crowding and amount of dento-alveolar compensation present. Treatment modalities include- growth modifications, orthodontic camouflage, orthognathic surgery and use of implants. Cases treated with all above modalities have been discussed.



**Dr Sumithra Hewage**  
Consultant Orthodontist  
Raigmore Hospital Inverness Scotland  
Gilbert Bain Hospital Shetland Islands  
Private Practice - Aberdeen

## **ENHANCING DENTOFACIAL AESTHETICS -STARTING WITH THE END IN MIND**

Successful treatment outcomes of dentofacial aesthetic enhancement depend on detailed assessment and careful planning.

Systematic approach to assessment of patients with dentofacial deficiencies is described.



Dr T Sabesan  
MS(Col), FDSRCS(Eng), MOSRCS(Edin), MOMSRCPS  
(Glasg)  
Consultant Maxillo-Facial Surgeon  
Sri Lanka

## ORTHOGNATHIC SURGERY: ART and SCIENCE OF FACIAL SCULPTURING SURGERY

Orthognathic surgery is defined traditionally as “Surgical manipulation of the elements of the facial skeleton to restore the proper anatomical and functional relationship in patients with dentofacial skeletal anomalies”. However, a closer look into the subject revealed that “Orthognathic surgery is a science and art” (Reyneke 2013) improving the facial aesthetics and functions in the oro-facial region.

Face is a composite structure, and the foundation is the bone. How the face looks at the outside has a lot to do with how it is shaped on the inside. Like the roof/windows/canopy on a house, the outer appearance of the face is highly influenced by the shape of the bone underneath it. An understanding of facial aesthetics, average proportions and symmetry help appreciate the clinical ability to improve the facial appearance with orthognathic surgery.

“Nowhere in the field of medicine is the fusion between art and science more important than in the clinical assessment of facial aesthetics” (Farhad B Naini). When planning and performing the corrective jaw surgery, the surgeons should visualize the total facial aesthetics and put into play their “artistic flair”.



**Dr Mithran S Goonewardene**  
BDS<sub>c</sub> (West.Australia) MMedSc (Harvard)  
Cert.Orth (Harvard/Forsyth) FICD FADI  
Head of Orthodontics and Graduate Programme  
Director  
University of Western Australia  
Australia

## **SMOKE AND MIRRORS WITH NEW TECHNOLOGY IN ORTHODONTICS**

The contemporary orthodontist is presented with numerous new technologies which clinicians feel compelled to use in their offices because of consumer pressure indirectly from proprietary influences. These technologies include the “newest” and “the best” treatment methodologies with significant purported advantages, practice management software and patient education strategies. Application of these technologies requires significant financial impost on the clinician and patient and questions are often raised regarding the efficacy of such measures. A number of new technologies will be reviewed and the current evidence to support their current and future application.



# ABSTRACTS OF FREE PAPERS



# MANAGEMENT OF A RARE SYNDROME WITH UNUSUAL DENTAL FINDINGS: OCCULO-FACIO-CARDIO-DENTAL SYNDROME

Geeta Verma<sup>1</sup>, Gulshan Kumar Singh<sup>2</sup>, Pradeep Tandon<sup>2</sup>

<sup>1</sup> Department of Orthodontics and Dentofacial Orthopedics, Babu Banarasi Das College of Dental Sciences, Lucknow, Uttar Pradesh, India.

<sup>2</sup> Faculty of Dental Sciences, King George's Medical University, Lucknow, Uttar Pradesh, India.

Radiculomegaly of a tooth is a rare condition. When it is associated with other dental abnormalities, facial dysmorphism and congenital cataracts, the condition is named as oculofaciocardiodental (OFCD) syndrome. This is an X-linked dominant trait, reported only in women, suggesting that it is lethal in males. The most consistent and pathognomic dental finding of OFCD is radiculomegaly (extremely long roots), particularly of the canines and occasionally of other teeth including premolars and incisors, which can easily be diagnosed on dental panoramic radiographs by a dentist or an orthodontist. Till date, 21 cases have been reported worldwide. The aim of this report is to present a new case of a 24 year old female affected by this syndrome first in India and to evaluate it from an Orthodontic perspective to call the attention for the management of this rare anomaly.

**Keywords:** Congenital cataract, facial dimorphism, radiculomegaly, X-linked dominant inheritance

# FAST LANE IN ORTHODONTICS - OUR EXPERIENCE

V Sudhakar, R Sumanth Kumar

Adhiparasakthi Dental College and Hospital, Melmaruvathur, Kancheepuram District, Tamilnadu, India.

## Introduction

Duration of Orthodontic treatment is of main concern to most of the patients undergoing fixed orthodontic appliance treatment. we have planned to use a least invasive procedure (MOP) with no pharmacological drugs to increase the rate of tooth movement.

## Aims

1. To evaluate the rate of tooth movement by incorporating Micro-osteoperforation (MOP) in the center of healed extraction site and varying the number and frequency of MOP site and comparing it with controls.
2. To evaluate the rate of canine retraction by incorporating MOP's just mesial and distal to canine and comparing it with controls and to compare between the arches.

## Materials and Methods

Experimental in vivo studies were designed after getting ethical clearance and consent from the patients, In each study design 20 patients satisfied inclusion and exclusion criteria were selected and MOP's were performed with "Custom made Propulsor" designed by our team, and canines were retracted using 9mm closed coil spring connected from Temporary anchorage device(TAD) to a serpentine power arm on a vertical slot of canine bracket and a uniform force of 100gm was achieved.

## Results

In all the experimental groups MOP's increased the rate of tooth movement significantly than the control groups. increased by two-fold and was more in maxillae.

## Conclusion

MOP's can be considered as an effective tool for increasing the rate of tooth movement thereby decreasing the duration of treatment. This procedure can be carried out easily as a chair side procedure without much of procedural difficulties from operator and patient side.

# PARADIGM SHIFT IN ERUPTION CHART - A CROSS SECTIONAL STUDY

**R Ramya**

Adhiparasakthi Dental College and Hospital, Melmaruvathur, Kancheepuram District, Tamilnadu, India.

## **Introduction**

Eruption is the axial movement of the tooth from its non functional position in the bone to the functional occlusion. Moment of eruption of tooth in to the oral cavity signifies the dental age of the individual. Any disturbance in the process of eruption will eventually result in late eruption and result in condition like delayed eruption, primary eruption failure and idiopathic eruption failure. variations in the normal eruption of the teeth is a common finding but significant deviation from the established norms should alert the clinician for further investigation.

## **Aim**

To determine the timing and sequence of eruption of permanent teeth.

## **Objectives**

To determine the existence of shift and assess the difference in the eruption sequence among the female and male children.

## **Materials and Methods**

This is a descriptive cross sectional study which included 500 subjects aged between 7-9 years selected based on simple random sampling. The determinant variable such as age, dental age were correlated with chronological age, teeth present. Height, weight and dietary habit and lifestyle of the children also recorded to understand the influence. Descriptive statistical indices were calculated and compared with eruption chart. Cox regression analysis was done to determine the relationship between the tooth eruption and life style modification and genetic predisposition (under ethical committee).

## **Result and Conclusion**

The study population included 258 boys and 242 girls in the age group of 7-9 years of age with at least one permanent tooth have been erupted. There is a significant delay in eruption pattern and a strong correlation with secular trends in modern world was observed. Further clarification regard to genetic predisposition is under investigation.

# EVALUATION OF INFRA ZYGOMATIC BONE THICKNESS IN DIFFERENT CERVICAL VERTEBRAE MATURATION STAGES FOR PLACEMENT OF ORTHODONTIC MINI IMPLANTS USING CBCT

**K Mahalakshmi**

Tagore Dental College and Hospital, Chennai, Tamil Nadu, India.

## **Introduction**

Anchorage is one of the most important consideration in the field of orthodontics to achieve a desired tooth movement. Inorder to eliminate the undesirable side effects such as anchorage loss, skeletal anchorage systems such as mini implants have been introduced in orthodontics.

## **Aim**

To evaluate the bone thickness of the infrazygomatic crest according to cervical vertebrae maturation index and to compare it between male and female subjects, by using conebeam computed tomography (CBCT) imaging.

## **Materials and Methods**

A retrospective study was conducted using CBCT images of 60 patients in the age group of 8-25 years. Cervical vertebra maturation was analysed using Hassel-Farmann index. The Infra zygomatic crest was divided into horizontal and vertical planes. The horizontal plane(HB) passed through the most inferior border of the zygomatic process of maxilla and the vertical plane(AP) passed through the most anterior point of the infra temporal fossa parallel to midsagittal plane.5 Parallel lines were drawn at 2 mm interval in both horizontal and vertical planes. (HB+2, HB+4, HB+6, HB+8, HB+10)(AP-2, AP-4, AP-6, AP-8, and AP-10) .The bone thickness was measured at the point of intersection of these lines.

## **Results**

According to Kruskal Wallis analysis, statistically significant difference in IZC bone thickness was seen in various CVMI stages ( $p= 0.001$ ).Maximum bone thickness was 11mm and minimum bone thickness was 1mm.No significant difference was seen between males and female population.

## **Conclusion**

Thus the supero-lateral area in infrazygomatic crest is the most appropriate site for miniscrew insertion in all age groups.

# ORTHODONTIC TREATMENT RELATED AWARENESS OF PATIENTS ATTENDING THE ORTHODONTIC UNIT, NATIONAL DENTAL HOSPITAL, SRI LANKA

W Mithula, WM Senadeera

National Dental Hospital (Teaching), Colombo, Sri Lanka.

## Introduction

The lack of awareness regarding orthodontic treatment procedures leads to abandoning the procedure before completion. This results in wastage of resources. It is paramount to know the awareness of patients regarding orthodontic treatment procedures to provide orthodontic health service with good cost effectiveness.

## Aim

The main objective of this study was to assess the orthodontic treatment related awareness among patients attending the Orthodontic unit, National Dental Hospital, Sri Lanka.

## Materials and Methods

A hospital based descriptive cross sectional study was performed with systematic sampling technique. A total of 350 participants were included. The inclusion criteria were, those who were above 15 years of age and attended the orthodontic clinic for the first time. The exclusion criteria were, those who received orthodontic care previously, those with mental disabilities and patients with cleft lip and/or palate. The judgmentally validated self-administered questionnaires were used. Ethical clearance was obtained from the Colombo medical faculty. The statistical evaluation was done with SPSS statistical package, version 22. The 5% significant level was considered for the analysis. Chi-square test was used to test the association between categorical variables.

## Results

Overall, 52.3% of the study participants revealed satisfactory awareness and 47.7% revealed unsatisfactory awareness. Among the study participants 88.3% didn't have satisfactory awareness regarding the duration of orthodontic treatment. Mother's education and mother's occupation were statistically associated with orthodontic treatment related awareness.

## Conclusion

The satisfactory awareness regarding orthodontic treatment is lacking in almost half of the patients attending the orthodontic unit, National Dental Hospital, Sri Lanka. Evidenced based correctly planned awareness programmes should be conducted to improve the awareness level of people.

## Key words

orthodontic treatment, awareness, association



# ABSTRACTS OF POSTERS



# AN AUDIT OF FREQUENCY AND COST OF REPAIRS AND REPLACEMENTS OF ORTHODONTIC APPLIANCES AT THE ORTHODONTIC LABORATORY, UNIVERSITY DENTAL HOSPITAL, PERADENIYA.

WBMCRD Weerasekera, DD Vithanachchi, TMA Rodrigo

Faculty of Dental Sciences, University of Peradeniya, Sri Lanka.

## Introduction

The repairs and replacements of removable appliances and supplementary fixed orthodontic devices immensely contribute to the routine workload in an orthodontic laboratory.

Information on the burden of repairs and replacements on the stake holders of orthodontic care will support revisiting the instructions on appliance care and to improve the technical skills in the construction of appliances.

## Aim

To determine the frequency and the cost of repairs and replacements in the orthodontic laboratory of the University Dental Hospital, Peradeniya.

## Materials and Methods

An audit was performed for damaged and lost removable appliances and fixed supplementary devices for a period of 09 months from January to December in 2018 except March April and May.

## Results

A total of 231 cases presented in 09 months. The male to female ratio was 55:45. The repairs accounted for 26% of the total workload. The highest rate of breakages (50.6%) were among 13-15year-olds. The need for replacement was 9.5%. First time repair was 33.3%. Most commonly broken component was Adams clasp 44.6%. Additional burden on the hospital due to repair and replacements was 872h and Rs56725.

## Conclusion

Considering the burden of repairs and replacements of orthodontic appliances detected in the audit, it is recommended to strengthen the instructions on appliance care to the patients especially to the 13-15 year-olds. It is also vital for the technical officers to take additional care in the construction of Adams clasps.

After revisiting the recommendations for 03 months by the stakeholders in orthodontic care, reaudit will be done in order to assess the effectiveness of the remedial actions.

# DIFFERENT APPROACHES OF CAMOUFLAGING THE CLASS II DIVISION 1 AND DIVISION 2 MALOCCLUSIONS ON MILD TO MODERATE CLASS II SKELETAL BASES

GAG Lakmali, DP Wettasinghe

Orthodontic Unit, National Hospital, Kandy, Sri Lanka.

Class II division 1 and division 2 malocclusions on Class II skeletal bases show a high prevalence among patients who seek orthodontic treatment. These cases often complicated with an associated deep bite. Treatment options depend mainly on the age at presentation and the severity of the underline skeletal base relationship.

Patients with mild to moderate Class II skeletal bases can be successfully managed with growth modification most of the time. Unfortunately, most of the patients have already passed the pubertal growth spurt by the time they present for the treatment. In such circumstances, camouflaging the underline skeletal base relationship where feasible is the only option available while the orthognathic surgery stands for the management of severe skeletal base relationships.

Out of the five cases highlighted in this poster, two cases presented with Class II division 1 and division 2 malocclusions on mild Class II skeletal bases and other three cases presented with same malocclusions on moderate Class II skeletal bases. All five patients have passed the pubertal growth spurt, when they presented for the treatment.

Case A and B illustrate the management of Class II division 1 and 2 malocclusions on mild Class II skeletal bases with extraction of four premolars and upper and lower fixed appliances.

Case C demonstrates the management of Class II division 1 malocclusion on moderate Class II skeletal base with intrusion and retraction of upper incisors using Temporary Anchorage Devices.

Case D shows the management of Class II division 1 malocclusion on moderate Class II skeletal base where intrusion of maxillary incisors with intrusion arch followed by Class II Correctors were applied.

Case E presents a patient with Class II division 1 malocclusion on moderate Class II skeletal base, treated with Class II Correctors after extracting four premolars.

# EFFECT OF MOBILE PHONE WITH AND WITHOUT EARPHONE USAGE ON METAL ION RELEASE FROM FIXED ORTHODONTIC APPLIANCES

**V Sudhakar**

Adhiparasakthi Dental College and Hospital, Melmaruvathur, Kancheepuram District, Tamilnadu, India.

## **Aim**

The aim of the study is to validate the hypothesis whether there is a significant variation in nickel ion release from fixed orthodontic appliance among the patients using hand held mobile phones and patients using mobile ear phones.

## **Materials and Methods**

A Total of 60 healthy patients who were undergoing fixed orthodontic treatment in department of orthodontics and dentofacial orthopedics, Adhiparasakthi Dental college and hospital, Melmaruvathur, Chennai, India and all these patients were bonded and banded. All of them are class I malocclusion with bimaxillary protrusion. Salivary samples were collected in their regular checkup after two months and 7th day ,14th day and 21st day salivary nickel level was evaluated based on their usage of mobile phones with earphones and without earphones.

## **Results**

Based on statistics results, the mean of nickel release in the patients using mobile phones without earphones were significantly higher than the patients using mobile phone with earphones in both males and females.

## **Conclusion**

By our study we concluded that usage of mobile phones with earphones have a significant reduced effect on metal ion release from fixed orthodontic appliance when compare to usage of mobile phones without earphones.

# EVALUATION OF EFFECTIVENESS OF VARNISH CONTAINING FLUORIDE AND FLUORIDE VARNISH WITH CPP-ACP IN PREVENTION OF WHITE SPOT LESIONS IN PATIENTS UNDERGOING FIXED ORTHODONTIC THERAPY – AN INVIVO COMPARATIVE STUDY

**R Sumanth Kumar**

Adhiparasakthi Dental College and Hospital, Melmaruvathur, Tamilnadu , India.

## **Aim**

The aim of the study is to compare the in vivo efficiency of MI varnish containing casein phosphopeptide (CPP) and amorphous calcium phosphate (ACP) and Fluoritop containing sodium fluoride (5% NaF ) in prevention and remineralization of white spot lesions around orthodontic brackets at 28th and 56th day after bonding.

## **Materials and Methods**

30 patients were selected and divided into 2 groups I (MI Varnish) and II (Fluoritop varnish) of 15 patients in each group. All the patients were bonded and then varnish was applied around the brackets. Right side upper and lower first premolar were taken as control group and left side upper and lower first premolar as experimental group. 14,24 teeth were extracted on 28th day after bonding and 34,44 teeth after 56th day of bonding. Samples were collected and sent to laboratory for evaluation of surface micro hardness (SMH).

## **Results**

Based on statistical results, there was significant decrease in demineralization and increase in remineralization of white spot lesion (WSL) after the application of varnish. No statistical difference was found between effectiveness of MI varnish and fluoritop except I cervical region.

## **Conclusion**

By our study we concluded that no statistical difference was found between effectiveness of MI varnish and fluoritop except in cervical region where MI varnish was found to be more effective than fluoritop in preventing WSLs.

# EVALUATION OF ORTHODONTIC TREATMENT OUTCOME: A PERSONAL CLINICAL AUDIT USING THE PAR INDEX (PEER ASSESSMENT RATING)

W Mithula, WM Senadeera

National Dental Hospital (Teaching), Colombo, Sri Lanka.

## Introduction

The attention should focus on personal clinical audit to improve the quality of orthodontic care to individual patients. Assessment of orthodontic treatment outcome using PAR index has been shown to have good intra-examiner and inter-examiner reliability.

## Aim

The purpose of this study was to evaluate the treatment standard of treated cases during orthodontic postgraduate training (2016-2019) at Orthodontic unit, National Dental Hospital, Sri Lanka.

## Materials and Methods

The pre-treatment and post-treatment study models of 20 consecutively treated cases during orthodontic postgraduate training (2016-2019) with upper and lower pre-adjusted edgewise appliances were collected and analysed using the PAR index.

## Results

Overall 90% of the patients were in “Greatly improved” category and 10% were in “Improved category”. The mean pre-treatment PAR score was 35.70(SD=13.41), mean post-treatment PAR score was 3.15 (SD=2.89) and mean PAR score reduction percentage was 90.55%.

## Conclusion

The mean PAR score reduction of 90.55% demonstrating a high standard of orthodontic treatment. Studies with some other orthodontic treatment outcome indices in a larger sample size are necessary to confirm the reported standard of treatment.

## Key words

PAR index, clinical audit, treatment outcome

# EVALUATION OF CHANGES IN SURFACE ENAMEL MICROHARDNESS IN PATIENTS UNDERGOING FIXED ORTHODONTIC APPLIANCE THERAPY - A RANDOMIZED CONTROLLED TRIAL

R Ramya, Anandadevi

Adhiparasakthi dental college and hospital, Melmaruvathur, Kancheepuram district, Tamilnadu, India.

## Introduction

Various studies have been conducted regarding demineralization of enamel surface in orthodontic patient but studies pertaining to the enamel surface micro hardness in patient undergoing orthodontic treatment is very minimal. The purpose of this study is to evaluate surface hardness of enamel in patient undergoing orthodontic treatment.

## Aim

This study aims at determining the amount of enamel decalcification in terms of micro hardness to set a standard protocol for further demineralization and remineralization.

## Materials and Methods

20 Patients reporting to the department of orthodontics, APDCH, with class I malocclusion and that satisfying the inclusion criteria was included in the study. Total samples contain 80, 40(20-right, 20-left) in maxilla and mandible respectively. After planning the treatment in an unbiased way, the permanent first premolar on one side has been extracted and set for the evaluation of micro hardness which was considered as control group. Then the experimental group was bonded with the fixed orthodontic appliance and the permanent first premolar has been extracted after 28 days for enamel decalcification using microradiography. The values were tabulated and analyzed by SPSS software.

## Results

Based on statistical result, there was a significant surface enamel dissolution of enamel crystals in experimental group compared to control group and statistically significant difference in VHN was evident between control and experimental group.

## Conclusion

The present clinical study is conducted to derive a numerical value of the surface enamel dissolution of enamel in patient undergoing orthodontic treatment. The study result has demonstrated a higher level of surface enamel dissolution in experimental group. There is a marked difference in the VHN between the control and experimental group, which is statistically significant. The SEM study also confirms the presence of surface enamel demineralization following orthodontic bonding.

# MEASUREMENT OF PALATAL BONE THICKNESS IN CLASS I AND CLASS II MALOCCLUSION IN LATE MIXED AND PERMANENT DENTITION - A CBCT STUDY

**K Mahalakshmi**

Tagore Dental College And Hospital, Chennai, Tamil Nadu, India.

## **Introduction**

Traditionally, orthodontists have used teeth, intra oral appliances and extra oral appliances to control anchorage. In recent years, temporary anchorage devices such as mini implants are used in orthodontics which are temporarily fixed to the bone for the purpose of enhancing orthodontic anchorage. Since the palatal area is composed of dense cortical bone, this site has been determined as the best anchorage site in the maxilla.

## **Aim**

To evaluate the palatal bone thickness in late mixed and permanent dentition and to compare the palatal bone thickness in Angle Class I and Class II malocclusion for placement of miniscrews using CBCT.

## **Materials and Methods**

CBCT scans of 40 patients was selected and divided into late mixed (mean age 12 years) and permanent dentition (mean age 18 years) and further divided into Angle Class I, Class II Division I and Class II Division II malocclusion. The measurements were made at 24 sites using Care stream 3D Imaging Software.

## **Results**

Bone thickness was higher in the anterior region than the middle and posterior regions. Furthermore, significant difference was found among the midline, medial and lateral areas of the palate. Class II Division II patient had thicker bone than Class I and Class II Division I groups.

## **Conclusion**

Thus the results helps in selection of implants with accurate dimension for placement in palatal sites for the success of orthodontic treatment.

# RETROSPECTIVE CLINICAL AUDIT: SUCCESS RATE OF MAXILLARY DISTRACTION CARRIED OUT IN CLEFT PATIENTS BY USING INTRA ORAL CUSTOMIZED BANDED TYPE RAPID MAXILLARY EXPANSION DEVICE IN LADY RIDGEWAY HOSPITAL FOR CHILDREN, COLOMBO

G Anandasayanan, DP Nanayakkara, AS Basnayake

Orthodontic unit, Lady Ridgeway Hospital For Children, Colombo, Sri Lanka.

## Introduction

Distraction Osteogenesis (DO) is the surgical technique in which new bone formation is induced by gradual separation of bony segments after osteotomy. DO was introduced in surgical practices for lengthening of lower limbs in 1905 by Alessandro Codivilla and Mc Carthy began to use this technique to manage congenitally hypoplastic mandible in 1992. Though, rigid external distractor (RED) provides excellent outcome in mid face distraction, adverse effect on speech in cleft patients and high cost limit the use in Sri Lanka.

## Aim

To evaluate the success rate of maxillary distraction carried out in cleft patients by using intra oral customized banded type rapid maxillary expansion device in Lady Ridgeway hospital for children, Colombo.

## Methods and Materials

This retrospective analytical study used a sample population of 40 patients who underwent maxillary distraction with the help of intra oral customized banded type rapid maxillary expansion device after osteotomy done in premolar or molar region by a single operating surgeon. An interviewer administered questionnaire was used as study instrument and questionnaire included areas to assess improvement in aesthetics, speech, occlusion as well as patient's perception.

## Results

Among study sample 70% patients had repaired unilateral cleft and 30% had repaired bilateral cleft. Approximately, 83% showed improvement in profile and 57% perceived speech improvement. Although, 50% patients developed anterior open bite and 40% identified as reduced incisal display during the initial stages after completion of distraction procedure was managed by various orthodontic procedures to achieve favourable occlusion at the end. Patient perception about overall outcome measured with visual analogue scale numbered from one to ten and 53% patients gave ten for overall improvement.

## Conclusion

Success rate for maxillary distraction in cleft patients depends on various factors like direction of surgical cut, severity of malocclusion, level of scarring due to the repair of cleft lip and palate, centre of rotation and required anchorage for the intra oral customized banded type rapid maxillary expansion device and compliance. Our figures revealed clinical success rate approximately 70% with acceptable occlusion and profile.

## ACKNOWLEDGEMENTS

- Our Chief Guest - Dr Anil Jasinghe, Director General of Health Services, Sri Lanka
- Our Guest of Honour- Dr Mithran Goonewardene, Discipline Head and Program Convenor, Orthodontics, University of Western Australia
- Our Orator - Dr N R Krishnaswamy, Professor and Head, Department of Orthodontics and Vice Dean, Ragas Dental College and Hospital, Chennai, India
- Our International speakers Dr Jim Hartsfield (USA), Dr Mithran Goonewardene (Australia), Dr S Prem Premaraj (USA), Dr Sumithra Hewage (UK), Dr Jane F McCarthy (Australia), Prof Abbas Zaher (Egypt), Dr NR Krishnaswamy (India), Dr Anil Ardesna (USA), Assoc. Prof. Charunee Khuttamarsri (Rattana yatikul) - (Thailand), Dr Ajit J Kalia (India) and Prof. Amit Nagar (India)
- Our Local Speakers - Dr T Sabesan and Dr. P Palipana
- Our sponsors
  - Gold - Sunshine Healthcare Lanka Ltd.
  - Silver - La Solve (Pvt) Ltd
  - Bronze - SS Dentopharma
  - Other sponsors GSK and Demed (Pvt) Ltd
- Our Free papers & Posters presenters
- Staff of Hotel Galadari Colombo
- All members and participants
- Our event partner Asia Tours Pvt Ltd.

Notes:







