

ALD[®]
2022 *INSPIRE
INVIGORATE
INNOVATE*
Dentistry's Laser Meeting



29th Annual Conference and Exhibition

CONFERENCE PROCEEDINGS

Mission of Our ALD Conference

To provide attendees with a positive educational experience that will leave them better equipped to provide improved patient care with increased provider satisfaction.

Academy Mission

The Academy of Laser Dentistry supports the safe and effective adoption of lasers in oral system health for patient well-being.

About the Academy

The Academy of Laser Dentistry (ALD) is an international, professional membership association of dental practitioners and supporting organizations dedicated to improving the health and well-being of patients through the proper use of laser technology. ALD is one of the largest nonprofit international organizations devoted to lasers in dentistry and includes leading clinicians, academicians, and researchers in all laser wavelengths. The Academy is devoted to clinical education, research, and development of standards and guidelines for the safe and effective use of dental laser technology. The Academy actively supports education and research through its programs, fosters dialogue, and seeks to build community among its members and dental organizations, educational institutions, researchers, industry representatives, and others who share our mission.

The Academy's official incorporation took place in 1993, following the merger of the American Academy of Laser Dentistry, the International Academy of Laser Dentistry, and the North American Academy of Laser Dentistry.

Welcome to ALD 2022!

I am delighted to welcome you to the Academy of Laser Dentistry's 29th Annual Conference.

Our theme is “Inspire, Invigorate, and Innovate in 2022.”

No matter where you are on your professional journey, the ALD 2022 Conference CE selections will INSPIRE your use of lasers with new and innovative techniques. ALD 2022 will INVIGORATE your dental laser experience and allow you to creatively INNOVATE your dental practice with new techniques and applications. You'll enhance what you already know to make a difference for your patients. Fulfill CE requirement in this Live Weekly Series produced live in April 2022 or and available to you at your convenience on your own time until the end of the year.

The following topics are included this year.

- Laser Dentistry (Hygiene, Pediatrics, General, Perio, etc.)
- Emerging Technologies (Sleep, Functional Growth and Development)
- Photobiomodulation (PBM)
- PBM mechanism of action (subtopic for PBM)
- Facial Aesthetics (Neurotoxins & Fillers in Facial Esthetic, Cosmetic Dentistry)
- Oral Esthetics (Depigmentation, etc.) Ortho Movement and Light
- Pediatrics
- Practice Management: The Business of Dentistry
- Controversies in Dentistry
- Laser Safety

To facilitate your virtual and on-demand experience at your preferred time and convenience, we also have some videos and live “get to know the virtual platform” social media activities just prior to the conference. These orientation events will be recorded for later reference as you need them for viewing later.

On behalf of the entire conference team, I thank you for joining us and making this a special event in 2022!

Arun Darbar, BDS, DGDP(UK)



Arun Darbar, BDS, DGDP(UK)
President of the Academy of Laser Dentistry

**Academy of Laser Dentistry 29th Annual Conference &
Exhibition Academy of Laser Dentistry
General Membership Meeting**

April 19, 2021 8:00 pm – 8:45 pm | Conducted Virtually

The Academy of Laser Dentistry will conduct its general membership business meeting on April 19, 2021 during the 29th Annual Conference of the Academy of Laser Dentistry. ALD President Dr. Arun Darbar will provide an update on the Academy programs and recognize our leaders.

Dr. Sam Low, President-Elect and Nominations Chairman, will conduct the election of Board Members and Officers. Eligible voting members present will be asked to vote to accept the nominees who will serve in the elective leadership positions for the Academy of Laser Dentistry. Members are provided this agenda by email.

Agenda

**Call to Order, Dr. Arun Darbar, ALD President
Establish Quorum, Gail Siminovsky, CAE, Executive Director
Presidential Remarks - Academy Report**

**Election of Officers and Board of Directors,
Dr. Sam Low, Nominations Chair**

**Members receive an email with links to
cast a vote for the nominated members.**

The Nominations Committee has nominated these ALD members to serve as elected leaders:

Nominated Officers 2022-2023

- Dr. James Carreiro, President-Elect
- Dr. Walid Altayeb, Treasurer
- Dr. Grace Sun, Secretary

Nominated Directors-at-Large

- Dr. Laura Braswell 2022-2025
- Dr. Nancy Fitzgerald 2022-2025

The President and Immediate Past President, as follows, pass automatically into these seats:

- Dr. Sam Low, President
- Dr. Arun Darbar, Immediate Past President

Continuing Directors-at-Large

Lynn Atkinson, RDH
Juliana Barros, DDS
Marina Polonski, DDS
Craig Sanford, DDS
Christopher Walinski, DDS

Board Advisors

- Dr. Donald Patthoff, Journal of Laser Dentistry Editor, Appointed, non-voting
- Gail Siminovsky, CAE, Executive Director, non-voting

New Business

- President's Remarks, Dr. Sam Low
- Presidential Recognition of Dr. Arun Darbar

Adjournment

GIVING FUTURE

It's an exciting time for ALD. Our impact on students and researchers has increased significantly through your donations and the growth of ALD's Dr. Eugene Seidner Student Scholarship and Grants Program.

In 2004, our goal was \$100,000. In 2012 we reached that goal. And 6 years later research grants were added. Today the funds are safeguarded to be used for future research and student scholarship.

Since inception the Program has awarded \$120,000 to honor 37 dental students in 6 countries.

Since 2018, in just 3 years, the Program has provided an additional \$56,000 in research grants to 6 researchers at 4 universities. Applications for Research Grants for 2023 will open later in 2022. The Dr. Eugene Seidner Board of Trustees decided not to open grants for 2022.

In 2022 we honor 1 young dentist as our Dr. Eugene Seidner Student Scholar

Shylon Mathew, DDS | Bronx, New York, USA

Track: Innovations - Pediatrics

Thursday, April 21, 2022

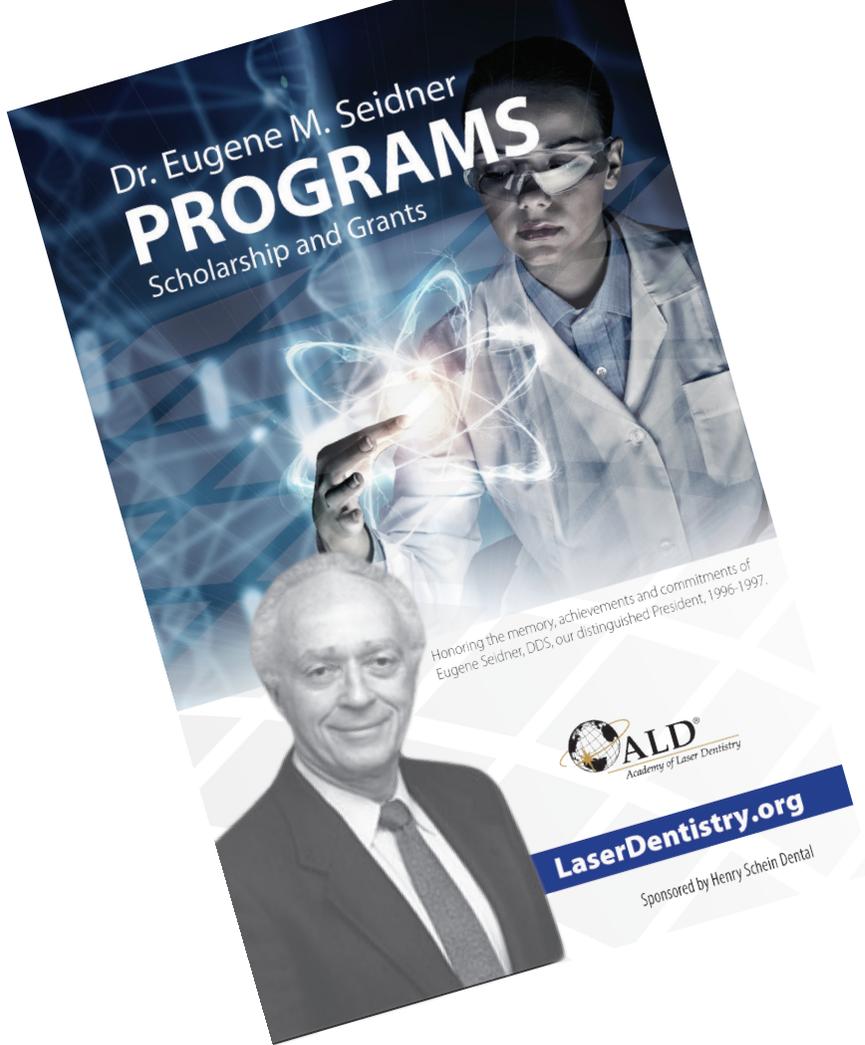
7:00 pm - 7:30 pm

Title: The Effect of Er,Cr:YSGG Laser Therapy on Pain and Anxiety During Pulpotomy Procedures on Deciduous Molars in Pediatric Dental Patients

Dr. Mathew is currently a practicing pediatric dentist in Bronx, New York. A New York City native, she earned her Doctorate of Dental Surgery degree with thesis honors from the University at Buffalo School of Dental Medicine. She then went on to complete a General Practice Residency at New York Medical College in Westchester, New York. She continued her specialty training in pediatric dentistry at St. Barnabas Hospital in Bronx, New York. Dr. Mathew has been involved in both preclinical and clinical research and has been awarded many accolades for her contributions. Her current research interest is the use of laser dentistry in dental restorative procedures.

Disclosure: Dr. Mathew has reported no conflict of interest.

Contact Dr. Mathew by e-mail at shylon.mathew27@gmail.com.



More than 175 people have invested over \$237,000 to support laser education and research. ALD plans to offer research grants for many more years thanks to the generous donations.

**Support the program and our young dentist on
April 21, 2021 at 7:00 pm – 7:30 pm Eastern Daylight Time
for the 29th Annual Conference research track.**

We salute our
Dr. Eugene Seidner winner

GENERAL INFORMATION

Conference Design and Educational Methods

The Academy of Laser Dentistry's 28th Annual Conference is intended for educational and informational purposes to improve dental education, clinical practice, and dental research in the use of lasers in dentistry. Educational methods include lecture, discussion, and demonstration activities. The theme for 2022 is "*Inspire, Invigorate and Innovate*".

Expected Learner Outcomes

Expected learner outcomes include a broad overview of the research and clinical aspects of lasers in dentistry. Presentations encompass applications in virtually all laser wavelengths for general dentistry, periodontics, esthetic dentistry, restorative dentistry, pediatric dentistry, implantology, and the business of dentistry. By means of pre-recorded lectures and live panel discussions, all attendees will have exposure to basic science and clinical laser use in many areas of dentistry. In addition, the specialty nature of this conference provides a networking between practitioners, researchers, and academicians leading to new interest and scientific breakthroughs in the field of dentistry.

Virtual Learning Format and Availability On-Demand

The Conference format is virtual. ALD is using an interactive platform called Map Dynamics that allows the full program to be easily accessed by attendees. The content has been pre-recorded and the speakers will be present virtually on Tuesdays and Thursdays April 5, 7, 12, 14 and 17, 19 during the live production. Speakers are available answer questions utilizing the Zoom Chat feature and the Map Dynamics Discussion Board feature. After the conference airs live on April 5, 7, 12, 14 and 17, 19, attendees will be able to access content until the end of this calendar year.

Event Technology

Attendees have varying levels of comfort with technology, therefore ALD provides instructions on:

- Where attendees can go for technical help and any technical tips
- How to use any chat features
- Where they can ask questions during the session and after the session
- Where any in-session activities might appear (e.g., polls)
- Other ways to participate: activities, contests, social media tags, etc.

Intended Audience and Background Requirements

The intended audience includes dentists in all disciplines, hygienists, dental assistants, office staff, industry representatives, government professionals, and anyone interested in learning about lasers in dentistry. The meeting is geared toward both novice and experienced laser practitioners who will share information about the use of lasers in dentistry. Unless specified otherwise for certain sessions, individuals attending the conference are not required to have any previous knowledge or experience in laser dentistry, medicine, or surgery.

Responsibility of Program Selection

The Academy's Conference & General and Scientific Sessions Committee is solely responsible for the review of submitted abstracts, selection of faculty and presenters, and approving the specific content of all continuing education (CE) activities.

Continuing Education Credit

Continuing education credit is available to all eligible participants. The Academy of Laser Dentistry is an ADA CERP Recognized Provider. ADA CERP is a service of the American Dental Association to assist dental professionals in identifying quality providers of continuing dental education. The Academy of Laser Dentistry and ADA CERP do not approve or endorse individual courses or instructors, nor does it imply acceptance of credit hours by boards of dentistry. The amount of CE credit to be granted is determined according to the individual educational content of each presentation and course. Up to 19 CEU's are available in the 2022 program.

Disclosure of Speaker and Faculty Commercial Relationships

According to the Academy's Conflict of Interest and Disclosure Policy, faculty and speakers for this conference are expected to disclose any economic support, personal interests, or potential bias that may be perceived as creating a conflict related to the material being presented. Disclosure statements are printed in the conference platform, ALD website, conference program, and shared in opening slides for individual speakers at the beginning of each presentation. This policy is intended to alert the audience to any potential bias or conflict so that participants may form their own judgments about the material being presented.

Disclaimer

The views expressed and materials presented represent the personal views of the individual participants and do not necessarily represent the opinion of the Academy of Laser Dentistry. While the General and Scientific Sessions Committee of the ALD is responsible for the selection of faculty and presenters and approving the specific content of all CE activities, the Academy assumes no responsibility for the content of the presentations made by individual participants or groups of participants. Selected presentations may include exploratory research or experimental procedures and are intended for informational purposes that may lead to new interest and scientific breakthroughs in the fields of dentistry.

Copyright

All proceedings of the Conference are intended solely for dissemination of knowledge relative to the art and science of lasers in dentistry. Any statement of presentation made is to be regarded as limited publication only and all property rights in the material presented, including common law copyright, are expressly reserved to the speaker or to the ALD. Any sound reproduction, transcript, or other use of the materials presented in the conference without written permission of the Academy of Laser Dentistry or the individual speaker is prohibited to the full extent of common law copyright in such material. Audio and video taping is strictly prohibited unless prior permission is given by the Academy of Laser Dentistry.

The Academy of Laser Dentistry (ALD) is a not-for-profit organization qualifying under Section 501c(3) of the U.S. Internal Revenue Code. The Academy of Laser Dentistry is an international professional membership association of dental practitioners and supporting organizations dedicated to improving the health and well-being of patients through the proper use of laser technology. The Academy is dedicated to the advancement of knowledge, research, and education and to the exchange of information relative to the art and science of the use of lasers in dentistry. The Academy endorses the Curriculum Guidelines and Standards for Dental Laser Education.

Abstracts, presenter biographies, disclosure information, and product descriptions are published for educational purposes as submitted by the respective presenters. They do not necessarily represent the views of the Academy of Laser Dentistry. ALD is not responsible for the opinions expressed by the presenters and advertisers. The Academy reserves the right to edit all abstracts, course descriptions and summaries, biographies, and other program information. When substantial revisions are made, authors are given the opportunity to accept the changes or to withdraw their submittal.

Written permission must be obtained by the Academy to audiotape, videotape, duplicate, and/or distribute any portion of the conference program or proceedings. Photography of any kind during any session is prohibited without prior consent.

Practitioners are advised to investigate and consider which medical devices and materials are cleared by the U.S. Food and Drug Administration for safety and efficacy and which are considered experimental, and which procedures are considered within the applicable scope of their license, competence, skills, and abilities, as established by their education, training, and experience. Clinicians are advised to review the specific indications for use of their devices and to review their operator manuals for guidance on operating parameters before attempting similar techniques on their patients.

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The Link Event Professionals, LLC

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Josh Power, Event Technologist

<https://www.thelinkevents.com/>



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AWARDS



2022 ALD Awards Recipients

Many of the members of the Academy of Laser Dentistry (ALD) submerge themselves in the dynamics of laser dentistry on a day-by-day basis. They put in long days at the office serving their patients, and in their “free time” dedicate themselves in even deeper ways. They spend time in research, developing new treatment techniques, write journal articles, teach at seminars, mentor colleagues, and spend countless hours volunteering on Academy committees. They do this without the thought of being given an award.

The ALD has four awards to celebrate the hard work of its members:

1. the Leon Goldman Award for Clinical Excellence,
2. the John G. Sulewski Distinguished Service Award for Outstanding Commitment and Contributions to the Academy,
3. the Dr. Glenda Payas Outstanding Educator Award that is presented for lifelong leadership excellence in dental laser education globally.
4. the T.H. Maiman Award for Excellence in Dental Laser Research

In 2022 ALD honors the commitment of three outstanding individuals, each contributing to making our world a kinder, gentler place.

Leon Goldman Award for Clinical Excellence



Lynn Atkinson, RDH

Private Practice, Torrance, California, USA

About Lynn Atkinson, RDH

Lynn Atkinson has been a Registered Dental Hygienist for 32 years. She graduated from Cypress College, California with a degree in Dental Hygiene and was fortunate enough to be a part of several dental teams that incorporated state of the art technology. Since obtaining the Associate Fellowship Certification through the World Clinical Laser Institute (WCLI) in 1996, Lynn has been actively applying the use of dental lasers in hygiene daily. Lynn went on to achieve the Standard Proficiency Certification through the Academy of Laser Dentistry (ALD) in 2013 and the Advanced Proficiency Certification Parts I and II in 2019. Lynn is currently practicing clinical dental hygiene as Clinical Hygiene Director in Mission Viejo, California four days a week. She speaks and trains doctors, hygienists, and team members on the use of lasers along with strategies to incorporate dental lasers into their protocol. Lynn is an active member of the Academy of Laser Dentistry, the American Dental Hygiene Association, the California Dental Hygiene Association, the Orange County Dental Hygiene Association, The Western Society of Periodontology, and is a Hygiene Faculty member, and Speaker for Biolase. Lynn serves on the Board of Directors at the Academy of Laser Dentistry as Auxiliary Chair, a member of the ALD Speakers Bureau, and is involved in the testing committee. Lynn is married with four children and lives in Torrance, California where she was born and raised.

Disclosure: Lynn Atkinson is a speaker and educator for Biolase.

It is an honor to recognize Lynn Atkinson with The Leon Goldman Award, ALD's highest recognition of clinical excellence.

Acceptance by Lynn Atkinson

Receiving this Leon Goldman Clinical Excellence award is such a humbling experience. I have been so fortunate as a registered dental hygienist to be involved with, and mentored by, so many colleagues, peers, and educators.

From the first innovative practice of Dr. Marvin Sparks in Long Beach, CA, to the current practice in Mission Viejo, with Dr. Robert Wolf, the Academy of Laser Dentistry has been the most supportive, welcoming, and encouraging family.

I especially want to thank Dr Low, or as I call him, Dr Wow! He has been instrumental in my involvement with ALD. I am grateful he took me under his wing and he has continually been an amazing support system throughout my laser journey.

I also want to thank Gloria Monzon, who started me on this path in 1995, and introduced me to so many people in this community.

Finally, I would like to thank Angie Wallace, Jeannette Miranda, and Mary Lynn Smith. They are the best partners and friends I could ask for.

Again, I am honored to receive this prestigious award. Thank you so much.

Contact Lynn by e-mail at [laser focusedhygiene@gmail.com](mailto:laserfocusedhygiene@gmail.com).

The **Leon Goldman Award** is presented for clinical excellence. Dr. Goldman was the first physician to report on laser exposure to a vital human tooth. In 2022 Lynn Atkinson is honored with the Leon Goldman Award for Clinical Excellence. The candidates are required to provide supportive documentation displaying the candidates' exceptional clinical work. The criteria for the Goldman Award for clinical excellence include: ALD membership, Advanced Proficiency Certification, clinical presentations annually, and recognized clinical excellence using lasers in dentistry in peer-reviewed journals. Lynn Atkinson joins a prestigious community of past recipients.

John G. Sulewski Distinguished Service Award for Outstanding Commitment and Contributions to the Academy



Lawrence Kotlow, DDS

Private Pediatric Dentistry Practice,
Albany, New York, USA

About Dr. Kotlow

Lasers became a passion in 2000 and Dr. Kotlow has been using lasers in his pediatric practice ever since in Albany, New York. Dr. Kotlow was among the early laser pioneers focusing on pediatrics. He is a known authority on laser use for frenectomy procedures in newborns and infants and has dedicated his career to educating others on laser use in pediatric dentistry. Dr. Kotlow lectures worldwide, has written several books and has spent countless hours sharing his knowledge and foresight with members of the Academy of Laser Dentistry.

Larry chose the ALD for sharing his knowledge. From 2000 when first joined, he has supported all of ALD's programs including the Dr. Seidner Scholarship program, earmarking a generous anonymous annual pledge specifically for pediatric dental laser education in undergrad and graduate programs. Thank you.

Dr. Kotlow served on the ALD Board of Directors in its earlier years. And, while governing is not really Larry's main focus, education is. Education has always been a passion and Dr. Kotlow looked to the Academy. Year after year, Larry would guide ALD in our production of laser focused pediatric programming. We needed an introductory video, Larry made one. We wanted a compelling program at the annual conference, Larry created one. During the pandemic, we relied on Larry. He spearheaded ALD's Pediatric Health Symposium in January 2021. In Oct 2021, Dr. Kotlow led another Pediatric Program in a month-long CE series. Both programs are available to you today. Through the Academy of Laser Dentistry. Now after more than 40 years in pediatric dentistry and more than 20 with ALD, we salute you today with the highest honor for distinguished service to ALD. Thank you.

It is an honor to recognize Dr. Larry Kotlow with the 2022 John G. Sulewski Distinguished Service Award for Outstanding Commitment and Contributions to the Academy

Disclosure: Dr. Kotlow is an educational consultant to several companies and receives honoraria for training from Convergent Dental. He was a beta tester of new upgrades and software for the Solea Dental laser as well as a dental consultant to and investor in Convergent Dental. Presently, Dr. Kotlow is an investor and developer of soft tissue dental instruments with Armor-Dental.

Acceptance by Dr. Kotlow

I would like to thank everyone at the Academy of Laser Dentistry for honoring me with this award. I would especially like to thank those that helped me through the years as we worked to accomplish the mission of the Academy of Laser Dentistry.

It all started for me in May 2000, when I was asked to give a course on "Hi Tech" Dentistry at the Academy of Pediatric Dentistry. At the end of that presentation the ONE question I was asked was "What do you think of lasers?" My initial thought is that they would be difficult to use on children. At that meeting two laser companies, Hoya and Biolase, were exhibiting lasers. I spent two days learning all about Lasers and invested in an Erbium:YAG. And, that was the beginning of my journey with lasers. The ALD has always been home to me. I have met, learned from, and become good friends with so many well respected and knowledgeable people.

There are many awards given out for various accomplishments to individuals, unfortunately they are most often awards named to honor or recognize an individual who would never know about the honor.

I appreciate the Academy recognizing me, specifically with this SERVICE award named for my good friend and respected colleague. I have worked with and known John Sulewski since I joined the Academy over 20 years ago. He has been a guiding beacon to ALD. I am happy John continues to shine his light upon us.

The other person I feel has helped me on this path and has always been there when I suggest a project is Gail Siminovsky. Thanks, Gail for always taking my calls.

I accept this award with pride and I assure you that all these years were and will continue to be a source of satisfaction and gratification to me as I have helped and will continue to help the Academy to carry on its work. Thank you

Contact Dr. Kotlow by e-mail at kiddsteeth@aol.com.

The John G. Sulewski Distinguished Service Award is presented for outstanding commitment and contribution to the Academy. In 2022, Dr. Lawrence Kotlow is presented with the John G. Sulewski Distinguished Service honor. The Distinguished Service Award recognizes leadership and participation in the Academy far above the call of duty including Board of Directors service.

The Dr. Glenda Payas Outstanding Educator Award



Dr. Shigeyuki Nagai

Private Practice, Tokyo, Japan

About Dr. Nagai

Dr. Nagai has held numerous appointments.

Dr. Shigeyuki Nagai received his DDS from the Osaka Dental University, Japan in 1987 and studied at the Harvard School of Dental Medicine as a Clinical Fellow from 1989-1992. He practiced at the Massachusetts Veterans Administration Medical Center and Massachusetts General Hospital in 1991. He received his PhD from Tokyo Medical and Dental University.

Dr. Nagai serves as a Board member of the Japanese Society for Laser Dentistry, Asia and Pacific Division of the World Federation for Laser Dentistry and Vice President of the Japanese Academy of Color for Dentistry. He served as the board member of Academy of Laser Dentistry from 2010-2018. He is a committee member of the Japan Academy of Esthetic Dentistry, Japan Society for Laser Surgery and Medicine and Japan Association of Microscopic Dentistry. He was awarded the ALD Leon Goldman Award for Clinical Excellence in Laser Dentistry in 2010 and the Excellent Presentation Prize of the Japanese Academy of Color for Dentistry in 2008.

In addition to all of these noted appointments and positions, the most important of all is Dr. Nagai's kind, gentle manner and willingness to teach others. He is responsible for translating ALD's certification examinations in Japanese. What a feat that was! He cares about colleagues around the world and it shows in all of his teaching. He has served as mentor and examiner for years as ALD's certification program grew.

D. Nagai maintains a full-time private dental practice in Tokyo, Japan. Dr. Nagai is visiting lecturer at Tokyo Medical and Dental University Photoperiodontics, Department of Periodontology.

Congratulations to Dr. Shigeyuki Nagai as this year's 2022 Outstanding Educator Award Recipient. ALD honors Dr. Shigeyuki Nagai as the 2022 recipient of the Dr. Glenda Payas Outstanding Educator Award.

Acceptance by Dr. Nagai

I am deeply honored to receive the Dr. Glenda Payas Outstanding Educator Award. Back in 1996, my first laser was pulsed Nd: YAG laser. There was limited information to use the laser for dental treatment. I had tried to find the usage of the laser with a lot of questions in my mind. Finally, I decided to attend the conference of the Academy of Laser Dentistry to learn the laser dentistry which was the only international meeting in the world for the clinician in 1998.

I brought my cases for the oral presentation at the conference and I found that what I was doing with the laser was wrong! That was what I expected to attend the ALD meeting to find out the correct usage of the laser.

Since then, I have tried to attend international meetings like the International Society for Laser Dentistry which is for the researchers, and the Europe Society for Oral Laser Application, also I had taken examinations at the laser meeting. The ALD has an excellent certification program which is the best curriculum compared to the other certification program of other international laser societies. I enjoyed learning at the ALD certification program and the ALD educator course.

The most important part of attending the ALD for me is to meet the excellent people who have the passion and the energy to share their knowledge and to lead laser dentistry to become a part of dentistry. I wouldn't have become the lecturer of laser dentistry without friends and mentors of ALD. I have felt that I am at home during the ALD meeting, because of the hospitality of the people who welcome the international members, especially, Dr. Art Levy had been the chairman of the International Committee for a long time and had always cared about us. It was my greatest pleasure to work with him at the International Committee. I would like to dedicate this award to my friend Dr. Art Levy. I have been teaching laser dentistry in various places and at the University and still have a lot of questions in my mind about laser dentistry more than in 1996. I believe that having questions or doubts about what am I doing with the laser makes me more higher quality for the patient care and learning is fun.

I wish to express my thanks to the Awards Committee for honoring me with the Dr. Glenda Payas Outstanding Educator Award.

Contact Dr. Nagai by e-mail at NagaiDC@aol.com

The Dr. Glenda Payas Outstanding Educator Award is presented for lifelong leadership excellence in education globally. This honor recognizes original research, years of educational instruction in multiple different educational environments from elementary school to postgraduate teaching, published articles, and distinguished volunteer leadership service that supports education globally. This honor is selected by the Dr. Eugene Seidner Student Scholarship and Research Grants Board of Trustees.

Conference Schedule

29th Annual Conference & Exhibition
April, Tuesdays (5, 12, 19) & Thursdays (7, 14, 21)

Tracks run concurrently from 7:00 pm - 9:30 pm ET

Tuesday, April 5, 2022 | 7:00 pm – 9:30 pm ET

Track: Essentials: PBM and Team

Moderator: Dr. Arun Darbar, ALD President

PBM Mechanisms of Action

James Carroll, FRSM

How Dental Assistants “Light” up the Way: Lasers and the Dental Assistant

Jeanette Miranda, RDH, BSDH; Angie Wallace, RDH

Comprehensive Non-Surgical Periodontal Therapy Utilizing CO₂ Lasers

Gwen Smukowski, RDH, BSDH, MBA

Live Q&A

Track: Innovations: Holistic & Essentials: PBM

Moderator: Dr. Grace Sun

Holistic Laser Dentistry

Judson Wall, DDS

Photobiomodulating Lasers and Children's Dental Care

Larry Kotlow, DDS

Live Q&A

Thursday, April 7, 2022 | 7:00 pm – 9:30 pm ET

Track: Essentials: Dental Team

Moderator: Dr. Sam Low, ALD President-Elect

Healthy Hygiene - Healthy Practice

Camille Luke, RDH, MSDH

How Do We Incorporate Lasers Into Our Practice? A Whole Team Approach

Lynn Atkinson, RDH

Managing Dental Anxiety in a High-Anxiety World

Yolanda Cox, RDH, MEd

Live Q&A

Track: Controversies in Dentistry

Moderator: Dr. James Carreiro, ALD Treasurer

What Went Wrong? Dealing with Complications and Bad Outcomes

Laura Braswell, DDS

From Hopeless to Hopeful: Extending Life of Compromised Dentition Using Laser Technology

Marina Polonsky, DDS, MSc

Live Q&A

Tuesday, April 12, 2022 | 7:00 pm – 9:30 pm ET

Track: Essentials: PBM

Moderator: Dr. Mel Burchman, ALD Past President

Photobiomodulation and the Opioid Crisis

Gerry Ross, DDS

PBM and Integrative Pain Management

Grace Sun, DDS, FAACD, MALD, MAGD, MICOI

Live Q&A

Track: Innovations: Facial Esthetics

Moderator: Dr. Laura Braswell

Anterior Gingival Esthetics Planning Through Execution

Louis Chmura, DDS, MS

Live Q&A

Full Digital Workflow in Combination with Laser-Assisted Perio-Plastic Microsurgery for Treatment of Gummy Smile

Hanaa Nassar, DDS, MSc, PhD

Thursday, April 14, 2022 | 7:00 pm – 9:30 pm ET

Track: Innovations: General Dentistry

Moderator: Dr. Marina Polonsky

Technologic Diagnosis and Treatment of Early Caries

John Graeber, DMD, MALD, MAGD, FICD

Live Q&A

Laser Scenario in Different Clinical Applications

Doaa Almiran, BDS, MSc

Live Q&A

Track: Innovations: Facial Esthetics

Moderator: Dr. Amir Daoud

Reverse the Aging Process with Esthetic Lasers

Larry Lieberman, DDS; Terry Alford, DMD

Live Q&A

Tuesday, April 19, 2022 | 7:00 pm – 9:30 pm ET

Track: Annual Business Meeting

ALD Annual Business Meeting & Election

ALD Annual Awards

Track: Innovations: Endodontics

Moderator: Dr. Sam Low

Lasers in Endodontics

Yuliya Kozlova, DDS, MSc

Do We Need NaOCl in the Root Canal When Lasers Are Used?

Isaac Kably, DDS, MSc

Thursday, April 21, 2022 | 7:00 pm – 9:30 pm ET

Track: Innovations: Pediatrics

Moderators: Dr. Ana Triliriou, Dr. Krystle Dean Duru and Dr. Lynda Dean Duru

Dr. Eugene Seidner Student Scholarship Presentation

Moderator: Dr. Ana Triliouris, Chairwoman

The Effect of Er,Cr:YSGG Laser Therapy on Pain and Anxiety During Pulpotomy Procedures on Deciduous Molars in Pediatric Dental Patients

Shylon Mathew, DDS

Moderators: Dr. Krystle Dean Duru and Dr. Lynda Dean Duru

Pediatric Soft Tissue Procedures

Larry Kotlow, DDS

Live Q&A

Track: Innovations: Sleep

Moderator: Dr. Jeff Harrison

Introduction to Dental Sleep Medicine

Jeff Harrison, DDS

Sleep disorder patients: How to Recognize, Stabilize, and Resolve

Andrew Cohen, DMD, Diplomate ACSDD

Utilizing Nonsurgical Fractional CO2 Laser Therapy to Improve Snoring and Airway Challenges

Scott Parker, DDS, AASDA

Nonsurgical Snoring Solutions with a 9.3-micron Laser

Anthony Bolamperti, DDS

Live Q&A

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2022 *INSPIRE
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Dentistry's Laser Meeting

ABSTRACTS



A New Era in Virtual CE Delivery

ALD's creativity in innovative CE sessions for the 29th ALD Annual Conference & Exhibition delivered virtually is setting the standard for the future of Continuing Education. Sessions are delivered live and pre-recorded. Interactive Panel Sessions, where attendees ask questions, changes the way we learn virtually. Selected presentations showcase ALD and specific dental application or specific lasers and industry partners. It is through clinical presentations, use of video, and live interactive panel discussions that ALD is producing a compelling and new virtual experience.

Program Design

The conference is staged live on Tuesday's and Thursday's April 5, 7, 12, 14, 19, 21, 2022 as a live production.

All content is available on demand at the viewers schedule until the end of the year Dec 31, 2022.

Two session convene concurrently allowing options for attendee learning.

The ALD CE Goal is to *Inspire, Invigorate and Innovate* in the delivery of CEUs in dentistry.

"This year we are thinking differently. We are gathering the best of the best in clinical approach, in industry, in research and bringing it to you in a series of weeks. ALD is leading in a new delivery of virtual education."



Dr. Sam Low,
ALD's Conference Chair,
during a recent planning session.

2022 Session Focus

April 5, 2022 | 7:00 pm – 9:30 pm ET

Innovations: PBM: Mechanisms of Action

Innovations: Holistic Dentistry & Essentials: PBM

April 7, 2022 | 7:00 pm – 9:30 pm ET

Essentials: Dental Team

Innovations: Controversies in Dentistry

April 12, 2022 | 7:00 pm – 9:30 pm ET

Essentials: PBM

Innovations: Facial Esthetics

April 14, 2022 | 7:00 pm – 9:30 pm ET

Innovations: General Dentistry

Innovations: Facial Esthetics

April 19, 2022 | 7:00 pm – 9:30 pm ET

Track: Annual Business Meeting

Innovations: Endodontics

April 21, 2022 | 7:00 pm – 9:30 pm ET

Innovations: Pediatrics

Innovations: Sleep

2022 ALD Presentation Abstracts

Tuesday, April 5, 2022 | 7:00 pm – 9:30 pm ET

PBM: Mechanisms of Action

Track: Essentials: PBM and Team

Presenter: James Carroll, FRSM | Chesham, Buckinghamshire, United Kingdom

Audience: Both

Photobiomodulation (PBM) is the application of light to accelerate tissue repair and reduce inflammation, edema, and pain. In addition, it can trigger defensive mechanisms making tissues more resilient to the effects of subsequent trauma. There is an immunomodulatory mechanism performing apparent contradictory effects: increasing antimicrobial cells (neutrophils, NK cells, T cells, B cells, macrophages) while at the same time reducing inflammatory cytokines. This suggests PBM supports physiological homeostasis. The First Law of Photochemistry states light must be absorbed for photochemistry to occur. So the PBM mechanism must start with the absorption of a photon. This is followed by a chemical or photophysical reaction, leading to a cascade of intracellular, extracellular, organ-wide, and systemic responses described as primary, secondary, tertiary, and quaternary effects. The leading hypothesis has been that light is absorbed in mitochondria by cytochrome-c oxidase, but this is in dispute. It remains the case that cytochrome-c oxidase (directly or indirectly) is influenced by light, leading to increased oxygen consumption concomitant with increased adenosine triphosphate (ATP) production and a burst of reactive oxygen species (ROS). In hypoxic or otherwise stressed tissues there is a reduction in oxidative stress and an increase in production of growth factors leading to improved tissue repair. Mitochondrial complexes are not the only absorbing (or otherwise influenced) molecules; cellular and mitochondrial membranes absorb infrared radiation, causing changes in membrane permeability. PBM also increases the availability of nitric oxide, improves intracellular signaling, increases vasodilation, and may explain the improved lymphatic flow. There is a nonlinear dose-response; not enough light and there is no effect, too much light and the effect is lost. To make matters more complicated, different wavelengths produce different results for the same dose and irradiance. Analgesia and even anesthesia can be induced with PBM. This requires a high irradiance (> 300 mW/cm²) and high dose treatment to the sensory nerve supply. The high dose inhibits fast axonal flow and reduces amplitude in superficial C fibers and A delta fibers. The high dose for analgesia/anesthesia may present a problem when treating areas of trauma which need a lower irradiance/lower dose to help the tissues heal. If anesthesia

is desired at the site of trauma or painful degenerative pathology, there is a risk of inhibiting desired tissue regenerative mechanisms. It may be possible to have the best of both worlds if the high-dose analgesic/anesthetic treatment is applied along the course of the nerve supply proximal to the trauma. Myofascial trigger points are a component of musculoskeletal pain (such as in temporomandibular disorder (TMD) and neck pain); PBM treatment reduces tenderness and deactivates the active motor end plate, leading to the relaxation of the taut muscle. Defensive mechanisms (preconditioning) in nonstressed tissue have been proven unequivocally *in vitro*, *In Vivo*, and clinically, but again the mechanism is still being explored. Finally, stem cell mobilization, proliferation, and differentiation are unequivocally proven to benefit from PBM, but the full mechanistic pathway needs further investigation.

NOTE: This presentation discusses investigational devices that have not yet received U.S. approval or clearance for the specified clinical indications or describes off-label uses.

Educational Objectives:

Outline the tissue repair mechanism of PBM.

Describe the anti-inflammatory mechanism of PBM.

Discuss the analgesic mechanism of PBM.

Tuesday, April 5, 2022 | 7:00 pm – 9:30 pm ET

How Dental Assistants “Light” Up the Way: Lasers and the Dental Assistant

Track: Essentials: PBM and Team

Presenters: Jeanette Miranda, RDH, BSDH, Sioux Falls, South Dakota, USA; Angie Wallace, RDH, Owasso, Oklahoma, USA

Audience: Advanced

This laser course is designed to introduce dental assistants to lasers and demonstrate how the dental assistant can be beneficial to the contribution of the use of dental lasers. The first segment of the course will consist of information on the different types of lasers, including diodes, erbium and CO₂. We will discuss the electromagnetic spectrum and the procedures for each different wavelength. Videos will be used throughout the presentation to show procedures and step-by-step protocols. The second segment of the course will focus on a basic review of laser safety, including care of wavelength-specific glasses, how to manage the optic fiber by stripping, cleaving, and placing new tips onto the laser, and how to

properly dispose of the tip. This will be followed by the set-up and disinfection protocols for each laser.

NOTE: This presentation discusses investigational devices that have not yet received U.S. approval or clearance for the specified clinical indications or describes off-label uses.

Educational Objectives:

- Review different types of dental lasers.
- Demonstrate laser safety knowledge.
- Demonstrate photobiomodulation procedures.

Laser Information:

Thor Photobiomodulation Unit

Tuesday, April 5, 2022 | 7:00 pm – 9:30 pm ET

Comprehensive Nonsurgical Periodontal Therapy Utilizing CO₂ Lasers

Track: Essentials: PBM and Team

Audience: All

Presenter: Gwen Smukowski, RDH, BSDH, MBA | Chicago, Illinois, USA

The purpose of this lecture is to highlight the utilization of the 10,600-nm CO₂ laser in treating periodontal disease in a nonsurgical modality. The lecture is appropriate for both novice and experienced users and will include basic laser physics applicable to CO₂, biologic rationale for lasers, clinical guidelines, laser safety, and administrative tactics. The presentation will be a mix of slides, videos, case studies, and guideline tables. Concise and reproducible guidelines for using the CO₂ laser in early, moderate, and advanced case types will be presented.

Educational Objectives:

- Identify opportunities for nonsurgical, laser-assisted periodontal therapy.
- Define comprehensive diagnostic and prognostic modalities.
- Highlight the utilization of a 10,600-nm CO₂ laser in attaining exceptional clinical outcomes.
- Discuss the administrative aspects of laser utilization in a hygiene department.

Laser Information:

Device Specifics for Laser Bacterial Reduction: DEKA Smart US-20 D CO2 laser, Florence, Italy Wavelength: 10,600 nm. Power for Active Therapy: Level 2.0. Power for Recare Therapy: Level 1.5. Emission mode: Super Pulsed. Energy per pulse (Average energy on target tissue): Active Therapy: 1.0-1.2 W; Recare Therapy: 0.7-0.9 W. Pulse rate: 50 Hz. Beam Profile and Pulse Duration: Initial beam penetration 60 microseconds, secondary stimulatory beam tail 100-500 microseconds. Duty cycle: 0.4% on, 99.6% off. Handpiece: Standard 4", Tapered Tip. Treatment interval: Repeat at 2-3 week interval

Tuesday, April 5, 2022 | 7:00 pm – 9:30 pm ET

Holistic Laser Dentistry

Track: Innovations: Holistic

Presenter: Judson Wall, DDS | Bountiful, Utah, USA

Audience: Both

The mouth is the gateway to health. If the mouth is unhealthy, disease is inevitable. More and more literature is being published every day on the oral-systemic connection. Holistic dentistry involves viewing the mouth as it relates to the rest of the body. Laser technology and red light therapy are key to holistic dentistry. During this presentation, Dr. Wall will review common laser applications used daily in his holistic dental practice, as well as the literature that supports its use.

NOTE: This presentation discusses investigational devices that have not yet received U.S. approval or clearance for the specified clinical indications or describes off-label uses.

Educational Objectives:

Review holistic dental principles.

Specify common laser and red light procedures used to help people to heal.

Review case studies showcasing laser use in a holistic practice.

Identify literature supporting laser use in holistic dentistry.

Laser Information:

Nd:YAG and Er:YAG Lightwalker (Fotona, Ljubljana, Slovenia), USA laser, MR4 (Multi Radiance Medical, Solon, Ohio, USA), Hooga red light and IR (630, 650, 800 nm) (New Berlin, Wisc., USA)

Tuesday, April 5, 2022 | 7:00 pm – 9:30 pm ET | Track 2

Photobiomodulating Lasers and Children's Dental Care

Track: Essentials: PBM

Presenter: Larry Kotlow, DDS | Albany, New York, USA

Audience: Both

Many laser instruments are available for treating oral disease. Some treatments involve removal of hard and/or soft dental tissue. However, other beneficial therapeutic results can occur without a photothermal event, and these effects are known as photobiomodulating (PBM) or low-level laser effects. They can be produced by most lasers; however, specific photobiomodulating laser instruments are available that operate at levels below 500 mW and can be used to provide a wide range of benefits. This presentation will describe the many uses for these devices used in the author's pediatric dental practice.

NOTE: This presentation discusses investigational devices that have not yet received U.S. approval or clearance for the specified clinical indications or describes off-label uses.

Educational Objectives:

Understand how PBM works at the cellular level.

Learn how you can use PBM tomorrow in your office.

Identify procedures which are completed using both PBM and surgical lasers.

Thursday, April 7, 2022 | 7:00 pm – 9:30 pm ET

Healthy Hygiene – Healthy Practice

Track: Essentials: Dental Team

Presenter: Camille Luke, RDH, MSDH | Tumwater, Washington, USA

Audience: Both

The hygiene department plays a huge role in the growth of a practice. Hygienists are in unique positions, typically having the most one-on-one contact with the patients. They are most likely first in line to present the benefits of preventive, restorative, or esthetic dentistry, providing suggestions and assisting with the decision process, setting the stage for case acceptance. Besides the direct patient care and helping patients understand the best treatment for their wants or conditions, there is also the business side of the profession – what does hygiene contribute to the financial success of the practice? Hygienists who understand the value of their position and the business side of their department should also understand the return on investment (ROI) of incorporating a laser into practice. This presentation will provide the participant with the tools and techniques to show how a successful hygienist can use a laser to help improve the health of the practice as well as the health of the patients.

Educational Objectives:

Understand the value and business side of the hygiene department.

Recognize key vital signs of a healthy hygiene department.

Identify steps to create an ROI spreadsheet for incorporating new technology or treatment methodologies into practice.

Laser Information:

Diode laser

Thursday, April 7, 2022 | 7:00 pm – 9:30 pm ET

How Do We Incorporate Lasers into Our Practice? A Whole Team Approach

Track: Essentials: Dental Team

Presenter: Lynn Atkinson, RDH | Torrance, California, USA

Audience: Both

Many clinicians have dental laser education and may be utilizing lasers in the practice but are unsure of how to incorporate lasers with the support of all team members. The team may not be familiar with how to explain the procedures or protocols to patients. This presentation will give the attendees tools to incorporate lasers throughout the entire practice. The discussion will center on using diagnostic information to support the diagnosis and treatment plan. When this is combined with consistent terminology and verbiage to educate the patient, there is alignment and trust which leads to case acceptance.

Educational Objectives:

Develop a plan to incorporate lasers into the practice.

Apply terminology and verbiage for the entire team.

Understand how to discuss laser protocols and techniques to your patients.

Learn how to use technology and diagnostic information to support your treatment and recommendation.

Thursday, April 7, 2022 | 7:00 pm – 9:30 pm ET

Managing Dental Anxiety in a High-Anxiety World

Track: Essentials: Dental Team

Presenter: Yolanda Cox, RDH, MEd | Blacklick, Ohio, USA

Audience: Both

The reality of dental anxiety has been confirmed and is a phenomenon experienced by more than 75% of the adult population to some degree or another. Several factors may play a part in the development of dental anxiety such as direct conditioning through negative dental experiences, indirect learning through other people's or various media's influence, pain, personality characteristics, and environmental factors. Dental professionals that are equipped to manage patient anxiety can help reduce the cycle of delayed visits, increased oral health issues, and symptom-driven treatment which results

in a poor oral health-related quality of life. This presentation will provide you with the latest strategies to increase your emotional IQ, utilize evidence-based nonpharmacological anxiety management interventions to treat patients effectively, and implement effective methods as a team. The presentation reviews the implications and practical interventions of dental anxiety in a research-based, logical manner that connects with dental professionals. The program includes an overview of key components to emotional intelligence with a self-assessment to build self-awareness. In addition, the latest nonpharmacological anxiety management interventions will be reviewed. Included are suggestions for gaining team buy-in for successful full practice implementation. Anxiety management has taken on a new level of importance with the exacerbation of mental disorders after the COVID-19 pandemic. Dental professionals must be equipped to formulate acceptable evidence-based therapies for such patients or else they can be a considerable source of stress for the dental professional. After attending this program, participants will be able to recognize and effectively address dental anxiety to provide safe, high-quality dental care.

Educational Objectives:

Understand the importance of emotional intelligence in the treatment of dental anxiety.

Implement practice evidence-based nonpharmacological anxiety management interventions.

Develop an inclusive team-approach to minimizing dental anxiety in the practice.

Thursday, April 7, 2022 | 7:00 pm – 9:30 pm ET

What Went Wrong? Dealing with Complications and Bad Outcomes

Track: Controversies in Dentistry

Presenter: Laura Braswell, DDS | Atlanta, Georgia, USA

Audience: Both

At most meetings the attendee sees everyone's best cases, but what about the worst cases? This presentation will showcase the "not so great" laser cases with complications and bad outcomes. By evaluating our problem cases, we can learn a lot about how to better treat our patients by changing our techniques, laser settings, and even attitudes!

Educational Objectives:

Acknowledge that "practicing"" laser dentistry does not always ensure a perfect outcome.

Identify difficult cases that could potentially result in poor outcomes (or lack of success) and hopefully prevent disappointment for both the practitioner and the patient.

Learn how to treat and remedy "bad" cases to better outcomes and avoid legal and ethical complications.

Laser Information:

Multiple lasers and settings will be presented along with possible changes in all that could improve patient treatment.

Thursday, April 7, 2022 | 7:00 pm – 9:30 pm ET

From Hopeless to Hopeful: Extending Life of Compromised Dentition Using Laser Technology

Track: Controversies in Dentistry

Presenter: Marina Polonsky, DDS, MSc | Ottawa, Ontario, Canada

Audience: Both

Many patients seek laser technology as a last resort when the conventional approach cannot offer anything more to help and extend the life of compromised dentition. This presentation aims to describe a number of clinical cases where teeth destined for extraction were preserved using Er,Cr:YSGG laser technology. From advanced periodontal disease to invasive cervical resorption to insufficient remaining tooth structure to support definitive restoration, learn step-by-step protocols which resulted in long-term clinical success. Understanding laser-tissue interactions is very important in deciding where lasers can provide better outcomes compared to conventional treatment and why. Proper patient selection, creating realistic expectations, and obtaining informed consent are essential for treatment of these “hopeless cases.”

Educational Objectives:

Extend your scope of practice by performing laser-assisted procedures.

Learn how a 2780-nm Er,Cr:YSGG laser can assist in difficult clinical scenarios.

Change your thinking from replacement to preservation of compromised dentition.

Laser Information:

2780-nm Er,Cr:YSGG (Waterlase iPlus, Biolase)

Tuesday, April 12, 2022 | 7:00 pm – 9:30 pm

Photobiomodulation and the Opioid Crisis

Track: Essentials: PBM

Presenter: Gerry Ross, DDS | Alliston, Ontario, Canada

Audience: Both

There is an opioid crisis in health care occurring around the world presently and it has only gotten worse during the COVID-19 epidemic. Much of this has been driven by opioid prescriptions by health care providers. Photobiomodulation therapy (PBMT) can greatly reduce the need to write opioid prescriptions after surgery. We will discuss the prescribing practices of dentists that contribute to the problem and its significance. Clinical techniques will be reviewed and a summary of the supporting literature will be discussed.

NOTE: This presentation discusses investigational devices that have not yet received U.S. approval or clearance for the specified clinical indications or describes off-label uses.

Educational Objectives:

Identify what the opioid crisis actually is.

Discuss dentistry's role in the opioid crisis.

Show how PBMT can help prevent the need for postoperative opioid prescriptions.

Describe the clinical technique that practitioners can use in their practice.

Laser Information:

Multiple lasers and LEDs. Specific devices will not be recommended.

Tuesday, April 12, 2022 | 7:00 pm – 9:30 pm

PBM and Integrative Pain Management

Track: Essentials: PBM

Presenter: Grace Sun, DDS, FAACD, MALD, MAGD, MICOI | Los Angeles, California, USA

Audience: Both

More than half of all Americans experience pain. 20-30% of these people suffer from orofacial pain. As therapists we need to manage the pain as well as address the etiology in order to bring about the best outcome. Pain medication, over-the-counter and prescribed, is standard treatment protocol which over time has caused widespread drug dependence and abuse. The number of drug overdose deaths has quadrupled since 1999, with more than 70% of those deaths involving an opioid. An integrative approach is essential, including photobiomodulation therapy (PBMT), acupuncture and traditional Chinese medicine (TCM), chiropractic and osteopathic medicine. PBMT, a therapeutic form of red and infrared light therapy, has come to be a unifying term covering low-level laser treatment (LLLT), sourced from laser and/or light-emitting diode (LED) devices. PBM therapy increases healing efficiency, including reduction of inflammation and faster muscle recovery. Acupuncture, a complementary pain management modality, stimulates neurological responses including releasing endorphins, activating the meridian channel, reversing stagnation (pain), and increasing the flow of vital energy. The meridian system can complementarily be activated with PBM, when directed to the correct location. Meridian mapping techniques and the identification of correlated meridian points and anatomical landmarks will be discussed.

NOTE: This presentation discusses investigational devices that have not yet received U.S. approval or clearance for the specified clinical indications or describes off-label uses.

Educational Objectives:

Understand the significance of exploring alternative approaches to pain management.

Review integrative approaches, including PBM therapy and acupuncture.

Learn mapping technique protocols for orofacial pain management with PBM

Laser Information:

Various LED light therapy devices manufactured by Oral IQ, including PBM Pro, featuring 470, 630, 660, 850, and 940 nm wavelengths.

Tuesday, April 12, 2022 | 7:00 pm – 9:30 pm

Anterior Gingival Esthetics: Planning Through Execution

Track: Innovations: Facial Esthetics

Presenter: Louis Chmura, DDS, MS | Marshall, Michigan, USA

Audience: Both

Preplanning for gingival esthetics starts at the outset. Whether the procedures involve intruding teeth to match the gingival contours, removing redundant tissue, or just reducing bulk, correcting the aberrant soft tissue can go a long way toward improving the finished result. There are a number of considerations that must be taken into account. This presentation will identify many of the critical factors in optimizing gingival esthetics and provide a systematic approach to diagnosing the problem, then planning an appropriate use of a soft-tissue laser.

Educational Objectives:

Specify the components of anterior gingival esthetics.

Learn how to plan treatment for optimal esthetics utilizing a soft-tissue laser.

Develop a systematic approach to improving anterior gingival esthetics.

Laser Information:

1064-nm diode laser (Fox Laser, Tech4Med)

Tuesday, April 12, 2022 | 7:00 pm – 9:30 pm

Full Digital Workflow in Combination with Laser-Assisted Perioplasty Microsurgery for Treatment of Gummy Smile

Track: Innovations: Facial Esthetics

Presenter: Hanaa Nassar, DDS, MSc, PhD | Cairo, Egypt

Audience: Both

Smile esthetics is a fundamental aspect of socialization and facial attractiveness. The harmony of a beautiful smile is known as the “Trifecta” or balance between the framework of lips and gingiva, along with shape, position, and color of the teeth. Although the permissible limit varies between populations, a gingival exposure exceeding 3 mm is considered unattractive and termed “excessive gingival display (EGD)” or “gummy smile.” Gummy smile affects approximately

10.5% to 29% of the population worldwide with a predominance in females and can pose a major obstacle in a person's self-esteem and psychology. For best outcomes in challenging conditions that require the correction of both soft and hard tissues, minimally invasive procedures in interdisciplinary dentistry should be embraced. Recent developments in CAD/CAM materials along with a better comprehension of biomechanical behavior of both restorations and tooth structure allow us to maintain the balance between pink and white esthetics and grant the patient a faithful reproduction of natural teeth with great morphological and color stability and excellent periodontal biocompatibility. This lecture will highlight the guidelines for case selection with illustration of different EGD cases that require micro and ultraconservative hard tissue management as well as laser-assisted esthetic crown lengthening. A state-of-the-art micro-invasive full-coverage preparation design for restoring severely compromised teeth will also be discussed.

Educational Objectives:

Summarize the guidelines and protocols suggested for every case selection for laser-assisted management of gummy smile in combination with minimally invasive additive hard tissue management.

Learn the best laser protocol and parameters for soft and hard tissue manipulation for optimum results and longevity.

Understand and implement the newly introduced biologically oriented preparation technique for restoring severely compromised dentition in combination with laser-assisted esthetic crown lengthening.

Recognize the different protocols followed in different cases for preparation and execution of micro and ultraconservative veneers as well as different bonding protocols for enhanced clinical performance and maximum longevity.

Product Information:

CAD/CAM Scanners: CEREC AC with OmniCAM (Dentsply Sirona, Charlotte, N.C., USA), Identica Blue extraoral scanner (Medit, Seoul, South Korea), inEos X5 scanner (Dentsply Sirona).

CAD/CAM software: Exocad DentalCAD (exocad, Darmstadt, Germany), CEREC 15.0.0 (Dentsply Sirona).

5-axis milling machines: CAM 5-S1 Impression (vhf camufacture, Ammerbuch, Germany), CEREC inLab MC X5 (Dentsply Sirona).

Digital shade guide: Vita Easyshade V spectrophotometer (VITA Zahnfabrik, Bad Säckingen, Germany).

Laser device: 2780-nm Er,Cr:YSGG Waterlase (Biolase, Foothill Ranch, Calif., USA), 2780 nm, free-running pulsed, average power 0.1-4.0 W, pulse energy 0-250 mJ, fiber/tip diameter 200-1200 μm .

Thursday, April 14, 2022 | 7:00 pm – 9:30 pm

Technologic Diagnosis and Treatment of Early Caries

Track: Innovations

Presenter: John Graeber, DMD, MALD, MAGD, FICD | East Hanover, New Jersey, USA

Audience: Both

For centuries dentists have relied on unreliable hand instruments (explorers) for caries diagnosis. Many technologies have been introduced to the profession which outperform traditional methods. As more and more younger patients have benefitted from fluoride therapy and enamel remineralization, enamel has become stronger, and there is less cratering of enamel which has been undermined by dentinal caries. Hence, caries are often hidden and do not allow an explorer to “stick.” New technologies utilizing various wavelengths of light and electrical conductance have shown much higher reliability in diagnosing and monitoring carious lesions. New technologies also have virtually replaced rotary instruments is the treatment of early caries: air abrasion is 30 years old, all-tissue lasers are 20. Great strides have also been made in regenerative techniques.

Educational Objectives:

Specify the clinical advantages and disadvantages of exceptionally accurate technologies in early diagnosis of caries.

Understand how caries may be scientifically managed without damaging teeth.

Review clinical cases of treatment with lasers, air abrasive techniques, and regeneration of dental tissues.

Product Information:

Icon, DMG; DEXIS DEXcam, KaVo-Kerr; CariVu, DEXIS; The Canary System, Quantum Dental Technologies; SOPROLIFE, Acteon; DIAGNOdent, KaVo; Ortek-ECD, Ortek Therapeutics; Global Dental Microscope, Global Surgical; AquaCare, Velopex International; 2980-nm erbium laser; 9300-nm Solea CO₂ laser, Convergent Dental

Thursday, April 14, 2022 | 7:00 pm – 9:30 pm

Laser Scenario in Different Clinical Applications

Track: Innovations: General Dentistry

Presenter: Doaa Almiran, BDS, MSc | Mosul, Iraq

Audience: Both

As Jan Tunér said, there is no cookbook for laser. For decades, several methods and scientific bases were used for each specific laser application, but different applications and different feedbacks allow the dentist to modify the techniques and customize the parameters for specific cases. The presentation will discuss several clinical cases with different lasers and the differences between them along with different parameters. How can different lasers affect the outcome? The scenarios of using diode lasers (810, 940, and 980 nm) and Er,Cr:YSGG (2780 nm) laser will be discussed. Photobiomodulation with 810, 940, and 980-nm lasers will also be presented. Modifications of Er,Cr:YSGG laser techniques will be presented. At the end I will represent how laser use in dermatology can help dental practitioners understand the body's reaction to laser treatment.

NOTE: This presentation discusses investigational devices that have not yet received U.S. approval or clearance for the specified clinical indications or describes off-label uses.

Educational Objectives:

- Identify different types of lasers and their clinical applications.
- Learn how to modify certain techniques to accommodate certain needs.
- Summarize the effectiveness of photobiomodulation in clinical cases.
- Understand how to relate dermatology to our laser work in the dental clinic.

Laser Information:

- Diode laser 940 nm (epic, Biolase)
- Diode laser 810 and 980 nm (Quicklase),
- Er,Cr:YSGG laser 2780 nm (Waterlase MD and iPlus, Biolase)

Thursday, April 14, 2022 | 7:00 pm – 9:30 pm

Reverse the Aging Process with Esthetic Lasers

Track: Innovations: Facial Esthetics

Presenters: Larry Lieberman, DDS | Palm Harbor, Florida, USA; J. Terry Alford, DMD | Brandonton, Florida, USA

Audience: Advanced

The cosmetic industry is a multibillion-dollar industry. Women and men alike are continually looking for ways to turn the clock back so they can look younger, better, and healthier. There are many energy-based devices and cosmeceuticals that can help get patients closer to their desired result. This presentation will concentrate on the use of the Er:YAG and Nd:YAG laser (Lightwalker, Fotona, Ljubljana, Slovenia). We will share some of the many possibilities that lasers can accomplish, including facial peels, wrinkle reduction, plumping lips, treating spider veins, the vectored lift, and others. We will sort out when to use lasers and/or Botox and fillers. Botox or neuromodulators are the most common cosmetic procedures performed in the world. Can lasers replace Botox? Fillers? It is very important that we keep our patients and doctors safe. It is up to the doctors to know their state regulations so they can comply with their state board of dentistry.

Educational Objectives:

Increase awareness of the facial esthetic market and discover how dentists can participate in it.

Teach people about skin and how to rejuvenate the collagen that is lost (1% per year) from the time we are 18 years old.

Identify some of the exciting possibilities that are lasers can perform to enhance beauty.

Keep patients safe when performing these advanced cosmetic procedures.

Laser Information:

Er:YAG and Nd:YAG laser (Lightwalker, Fotona), maximum of 20 W of power.

Lasers in Endodontics

Track: Innovations: Endodontics

Presenter: Yuliya Kozlova, DDS, MSc | Moscow, Russian Federation

Audience: Both

Introduction: Successful root canal treatment depends on two main factors: precise knowledge of anatomy and morphology of root canal system and cleaning and disinfecting of the root canal system before obturation. The purpose of root canal disinfection is to remove the tissue remnants, bacterial biofilms, and smear layer. The smear layer is formed during mechanical instrumentation of the root canal and covers the canal walls. This smear layer contains microorganisms, necrotic tissues, and dentinal remnants. The smear layer constitutes an obstacle to the delivery of irrigants and chemical agents in the root canal system and creates a barrier between the root canal surfaces and filling materials. Removal of smear layer and debris provides better sealing of filling materials to root canal surfaces.

Objectives: The purposes of the described study were to evaluate the effectiveness of (1) Er:YAG Laser-Activated Irrigation (LAI) with 17% ethylenediaminetetraacetic acid (EDTA) and distilled water in removing the smear layer and enhancing the results of endodontic treatment, and (2) disinfection of the root canal with an erbium laser after standard mechanical and drug treatment of the canal.

Methods & Materials:

In Vivo

Twenty intact single-rooted teeth extracted due to periodontal disease were selected for the study. The teeth were disinfected and processed by the standard mechanical protocol (hand tools: K-files, K-reamer, H-files; machine tools: Profiles, Mtwo) and drug treatment, using 3% sodium hypochlorite and 17% EDTA solution with passive ultrasonic for solutions activation. Then the teeth were sanitized in a 75% alcohol solution, washed with sterile distilled water, and infected with strains of *Enterococcus faecalis*, *Streptococcus sanguinis*, and *Candida albicans*. After incubation for 7 days, dentin scrapings were taken from the walls of the root canal. Teeth were prepared mechanically using hand and machine tools and medically using 3% sodium hypochlorite solution and 17% EDTA solution with passive ultrasonic activation of irrigants. After EDTA treatment, all teeth were randomly divided into two groups:

1st group: 17% EDTA + Er:YAG laser for 1 minute with an energy of 40 mJ and a pulse frequency of 10 Hz

2nd group: 17% EDTA

Before medical treatment of the root canal and immediately after its completion, dentin scrapings were taken for microbiological examination. Dentin was taken from the walls of the root canal with a sterile H-file, then the dentin samples were placed in a transport medium. The contents of the root canal were plated on solid nutrient media and cultivated in an aerobic incubator (Binder, Germany) and a CO₂ incubator (Lamsystems, Russia) in accordance with the requirements for incubation conditions for various microorganisms. Quantitative assessment of the results was carried out according to the Gould method. Results were analyzed by matrix-assisted laser desorption/ionization time of flight (MALDI-TOF) mass spectrometry (Myla, BioMérieux, France).

In Vivo

Seventy patients with a diagnosis of chronic periodontitis, aged 35-60 years, were selected. The test group consisted of 35 patients (19 women and 16 men). Endodontic treatment was performed according to standard methods. The operation field was cleaned with brushes with paste and 2% chlorhexidine solution and isolated with cofferdam. The old restoration was removed, the tooth cavity was opened, and the root canals were mechanically and medically treated with manual and machine tools. Root canal irrigation was performed with 3% sodium hypochlorite with passive ultrasonic activation of the solutions. At the final stage, the canal was treated with a 17% solution of EDTA with an erbium laser for laser-activated irrigation, with a wavelength of 2940 nm, an energy of 40 mJ, and a pulse frequency of 10 Hz. A laser tip was inserted into the pulp chamber. Root canal filling was performed during the same visit. The comparison group consisted of 35 patients (20 women and 15 men) who received the same root canal treatment without using an erbium laser.

Results:

In Vivo

In the test group of extracted teeth (Er:YAG), high titers of *E. faecalis*, *S. sanguinis*, and *C. albicans* strains were shown before drug treatment of the root canal. After mechanical and drug treatment of the root canals with 17% EDTA in combination with erbium laser irradiation, no colonies were recorded in all tested samples. This indicates the degree of disinfection of the root canal. In the control group of extracted teeth (treated without erbium laser), a significant decrease in the titer of *E. faecalis*, *S. sanguinis*, and *C. albicans* strains was established. After mechanical and drug treatment of the root canals of the extracted teeth, a significant decrease by 4 times in the titer of colonies of the above microorganisms was recorded ($P < 0.05$). This *in vitro* study showed that mechanical and drug treatment of the root canal reduced the number of microorganisms to titers 10² and 10³ CFU/ml and high efficiency of root canal treatment was observed when Er:YAG laser irradiation was applied.

In Vivo

In the test group, high titers of *Enterococcus haemolyticus*, *Staphylococcus epidermalis*, *Streptococcus mitis*, and *Streptococcus mutans* from 10^5 to 10^8 cells/ml medium were observed immediately after mechanical treatment of the root canals (without drug treatment). After drug treatment of the canals, a significant decrease in the titer of microorganisms by 4 times to 10^2 CFU/ml was recorded ($P < 0.05$). In root canals treated with erbium laser irradiation in combination with 17% EDTA in all tested samples, growth of colonies was not recorded. This indicates degree of disinfection of the root canal. In the control group, patients received a similar protocol for endodontic treatment and materials were collected before and after drug treatment of the root canal. Before root canal treatment, as in the main group, high titers of *E. haemolyticus*, *S. epidermalis*, *S. mitis*, and *S. mutans* from 10^5 to 10^8 CFU/ml of medium were observed. After drug treatment, a significant decrease in the titer of microorganisms to 10^2 - 10^3 CFU/ml ($P < 0.05$) was detected and only *S. mitis* growth was not recorded.

Conclusion: The efficiency of root canal treatment with an Er:YAG laser is quite high. Modification of the irrigation protocol for endodontic treatment, in particular, chronic periodontitis, by laser-activated irrigation is an effective method of disinfection. Further studies are needed in this field.

Educational Objectives:

Summarize advantages of using lasers in endodontics.

Describe laser-tissue interaction in endodontics.

Compare the use of lasers in endodontics with traditional methods of endodontic treatment.

Laser Information:

2940-nm Er:YAG laser, 40 mJ, 10 Hz

Tuesday, April 19, 2022 | 7:00 pm – 9:30 pm

Do We Need NaOCl in the Root Canal When Lasers Are Used?

Track: Innovations: Endodontics

Presenter: Isaac Kably, DDS, MSc | CDMX, Mexico

Audience: Both

This presentation will be based in a randomized clinical trial for a master's thesis. Disinfection is one of the main objectives in endodontics. Several irrigants, concentrations, and techniques have been reported for root canal disinfection. In this work, disinfection is addressed with coherent laser radiation, seeking to obtain results similar to the ones with the gold standards of treatment. **Methods & Materials:** Forty-five patients with single-rooted teeth, diagnosis of pulpal necrosis, and an evident radiographic radiolucency were randomly allocated in 3 groups and exposed to different disinfection protocols. **Results:** No statistical difference was found after 1 year ($P > 0.054$) when using lasers with and without sodium hypochlorite (NaOCl) for root canal disinfection. **Conclusion:** Coherent radiation is efficient in root canal disinfection.

Educational Objectives:

Summarize the potential of laser energy on root canal disinfection.

Comprehend the need for a dual laser wavelength protocol.

Review single-visit retreatments and necrotic cases with laser-assisted Endodontics.

Laser Information:

2780-nm Er,Cr:YSGG and 940-nm diode laser (Biolase). Parameters of both wavelengths will be presented in the research.

Thursday, April 21, 2022 | 7:00 pm – 9:30 pm

Dr. Eugene Seidner Student Scholarship Presentation

The Effect of Er,Cr:YSGG Laser Therapy on Pain and Anxiety During Pulpotomy Procedures on Deciduous Molars in Pediatric Dental Patients

Track: Innovations: Pediatrics

Presenter: Shylon Mathew, DDS | Bronx, New York, USA

Audience: All

Introduction: In pediatric dentistry, the pulpotomy is a common vital pulp procedure used to retain teeth by removing infected coronal pulp tissue and preserving radicular pulp tissue. Standard treatment for pulpotomy procedures using conventional means is often accompanied by fear and pain for the patient. Although the pain may be reduced by local anesthesia, fear of the needle, noise, and the vibration of mechanical preparation remain a cause of discomfort and anxiety for the patient. Recent studies have shown that use of an Er,Cr:YSGG laser reduces pain perception.

Objective: The aim of this clinical study was to evaluate pain perception and anxiety during pulpotomy procedures in deciduous molars using an Er,Cr:YSSG laser.

Methods & Materials: This randomized controlled study compares laser and conventional preparations using a dental handpiece (control group). Patients (n = 10) aged 5-9 years old who were cooperative (Frankl scale 3-4), healthy (ASA I-II), and required dental treatment on one deciduous molar tooth were randomly assigned to either laser or conventional treatment with a coin toss. Dental treatment included pulpotomies and placement of stainless steel crowns. All treatments were conducted in the same manner: behavior management with tell-show-do, placement of a bite block, and isolation by either rubber dam (control group) or a suction evacuation system (Isodry, Zyris, Santa Barbara, Calif., USA) (laser group). The control group (5 patients) received 20% benzocaine topical gel in the area where the anesthetic was then administered. The study group (5 patients) did not receive local anesthetic; the laser was used to remove caries with water spray cooling and high-power evacuation. In both the control and laser groups, the pulp chamber was opened and the coronal pulp removed. A spoon excavator was used to clean the wall of the chamber. The Wong-Baker FACES® pain rating scale and the Modified Child Dental Anxiety Scale (MCDAS) were utilized before and after treatment was completed to assess pain and anxiety

subjectively. A pulse oximeter was used to measure heart rate at baseline and at 10-minute intervals throughout treatment. Heart rate increases were monitored as an indicator of pain and anxiety.

Results: The mean value of the pain associated with the pulpotomy performed with the dental handpiece was found to be significantly more than the pain associated with pulpotomy completed by laser ($P = 0.004$). The laser showed a statistically significant reduction in pain and anxiety over the handpiece. Changes in heart rate were also found to be significantly higher during the procedure in the control group while no significant difference in heart rate was observed during treatment with the laser when compared to baseline heart rate ($P = 0.001$).

Conclusion: These preliminary results demonstrate that the laser-assisted pulpotomy is a better tolerated treatment method compared to conventional pulpotomy procedure by pediatric patients. The dental laser can be a good alternative in pediatric patients to alleviate high anxiety associated with traditional dental treatment.

Educational Objectives:

Specify the mechanism by which the Er,Cr:YSGG laser can be used for both hard tissue and soft tissue procedures in pediatric dentistry.

Explain how the erbium laser can be used for pulpotomy procedures in deciduous molars with no need for local anesthesia.

Laser Information:

Er,Cr:YSGG laser (Waterlase iPlus, Biolase, Foothill Ranch, Calif., USA) with MZ6-9 tip.

For pulp chamber access, Class I settings:

Bond prep: 4.5 W, 50 Hz, 60/40 air/water

Comfort prep: 5.0 W, 15 Hz, 80/50 air/water

Rapid prep: 8.0 W, 20 Hz, 90/70 air water.

For pulpotomy setting, coagulation setting: 2.0 W, 50 Hz, 20/1 air/water

Thursday, April 21, 2022 | 7:00 pm – 9:30 pm

Pediatric Soft Tissue Procedures

Track: Innovations: Pediatrics

Presenter: Larry Kotlow, DDS | Albany, New York, USA

Audience: Both

There is far more to lasers than setup and maintenance of the devices. Soft tissue laser treatments for the pediatric patient are varied and many. This presentation relates 21 different soft tissue procedures beyond infant frenectomies. I will discuss procedures and techniques that I have been using for over 48 years and with lasers since 2000 and specifically using the 9300-nm laser since 2011. A significant number of these procedures can be completed without the need for local anesthetic.

Educational Objectives:

Discover how to keep patients in your practice rather than referring out for most soft tissue surgery.

Specify new soft tissue procedures that you can add to your patient care.

Learn how to do anesthetic-free surgery in many cases.

Describe how to get immediate relief for your patients suffering from aphthous ulcers and herpes labialis.

Laser Information:

9300-nm CO₂ laser (Solea, Convergent Dental) with variable power using a foot pedal rheostat. Other parameters are computer-generated; spot size varies from 1.0 to 1.5 mm depending on procedure. For the 21 procedures, power set to 30% but varies from 10 to 30%.

Thursday, April 21, 2022 | 7:00 pm – 9:30 pm

Introduction to Dental Sleep Medicine

Track: Innovations: Sleep

Presenter: Jeffrey Harrison, DDS | Cortez, Colorado, USA

Audience: All

While COVID has been the most talked about pandemic most recently, the most important epidemic facing your patients is getting far less attention and causing far more harm – obstructive sleep apnea (OSA). One in four of the adult patients you saw today is already starting to suffer from this not-so-silent killer without their knowledge. Medicine has failed to adequately identify and treat most patients in need and now dentists find themselves being asked to serve on the front line for screening, diagnosing these patients, and possibly playing an important role in their management. Make 2022 the year you stop ignoring the dental warning signs and start to collaborate with other healthcare providers by understanding the connection that airway, sleep, and breathing has with the dentistry you are doing every day.

Educational Objectives:

Provide an overview of dental sleep medicine in advance of specific laser applications used in the management of this disease.

Enumerate the signs and symptoms of sleep-related breathing disorders.

Appreciate the prevalence of the obstructive sleep apnea epidemic.

Specify where to go next for education and training to learn a patient- and physician-friendly protocol to follow from screening through diagnosis, treatment, and medical insurance reimbursement.

Information provided by Sleep Group Solutions (Hollywood, Fla., USA).

Thursday, April 21, 2022 | 7:00 pm – 9:30 pm | Track 2

Sleep Disorder Patients: How to Recognize, Stabilize, and Resolve

Track: Innovations: Sleep

Presenter: Andrew Cohen, DMD, Diplomate ACSDD | Jenkintown, Pennsylvania, USA

Audience: Both

Proper sleep quality is critical for optimal health and prevention of disease. When patients do not get enough healthy sleep, they are at increased risk of getting sick. This presentation will review how dentists can better understand, uncover, and diagnose potential sleep-related disorders. It will also review principles of treatment and management with the ultimate goal of patients having an improved quality of life and more successful outcomes with their dental care. This presentation will discuss the key elements that can provide insight on potential airway issues. Untreated airway and sleep-related issues have been proven to increase the likelihood that systemic diseases can progress without intervention. Dentists can often diagnose or suspect various medical ailments patients may have through comprehensive oral examinations. There are clearly established findings that suggest the oral cavity can provide insight into a patient's potential medical disease, such as temporomandibular disorder, diabetes, gastroesophageal reflux disease, and cardiovascular health, to name a few. Current research is now demonstrating that poor sleep is a contributing factor negatively affecting patients' health. Patients' sleep histories – such as nocturnal bruxism, snoring, insomnia, and frequent nocturia – need to be investigated and understood, since they can be clear signs of sleep-related disorders. Dental providers typically see patients a minimum of two times a year for routine maintenance, which is sometimes more often than patients see their own physician. This creates an opportunity to help patients become educated about the effects of poor sleep through diagnosis and examination so they can understand and receive medical care for this health-related epidemic. Sleep-related disorders are mentioned more regularly in the media, so patients are more likely to ask if they have a problem and if they are at risk. Dental care providers can often be the first to uncover sleep-related issues by inquiring about and observing signs and symptoms that patients may not be aware of. Providers must become more knowledgeable about the appropriate questions to ask and what to look for as an important first step to diagnosing and improving a patient's health. Routine review of a patient's medical, dental and sleep history – combined with a thorough clinical examination and 3D imaging – can uncover and bring to light multiple risk factors resulting from poor quality of sleep. The key is knowing the signs and symptoms

that can alert practitioners to a potential issue. Once a sleep disorder is suspected, further testing, screening, and imaging can be done to better understand a patient's anatomical constriction area or "choke point." Practitioners who understand the obstructive region can then suggest various treatment options which can be used to help manage, improve, and potentially resolve poor sleep quality. The ultimate outcome is making our patients healthy and improving their quality of life.

Educational Objectives:

Recognize patients with potential sleep disorder with a comprehensive medical, dental, and sleep examination.

Understand how 3D imaging can help determine a patient's airway choke point.

Discover methods to screen patients with suspected sleep disorders.

Identify protocols that include laser use to manage and treat sleep disorders.

Laser Information:

Fotona Lightwalker NightLase® C3 protocol (floor of mouth, soft palate, and tongue). 1064-nm Nd:YAG laser preheat with R30A handpiece, 8.0 Hz, 20 ms pulse duration, 40 J/cm², 2-mm spot size, 5 passes in each area to warm the tissue to a range of 38-42°C. 2780-nm Er:YAG laser with PS04 handpiece, 4.0 W, 1.5 Hz, 7.0 J/cm², 6 stacked pulses 6 times.

Thursday, April 21, 2022 | 7:00 pm – 9:30 pm

Utilizing Nonsurgical Fractional CO₂ Laser Therapy to Improve Snoring and Airway Challenges

Track: Innovations: Sleep

Presenter: Scott Parker, DDS, AASDA | Woodland Hills, Utah, USA

Audience: All

Overwhelming evidence confirms the negative impact that snoring and poor quality of sleep plays in our society today. The physical and emotional health of the individual are primarily affected and the toll on society is equally high when sleep is compromised. The overall impact of poor sleep on systemic health as well as community health can be profound and devastating. As we begin to understand the toll, it is no wonder that sleep dentistry is one of the fastest-growing segments in our industry today. Traditionally, diagnostic tests of airway and sleep issues were impractical to administer and difficult if not impossible for the dental practitioner to understand. We acknowledge and praise the handful of maverick pioneers that forged the way to our understanding today. It is through their efforts that we have improved diagnostic tools, wearable technology, software, and laser therapies that make a tremendous positive impact in assisting clinicians to recognize, quantify, and successfully treat this health condition. Utilizing a CO₂ laser is one of the most efficient and effective first lines of defense that a clinician can use to improve quality of sleep. When treatment of snoring and airway issues is performed correctly, it can give instant relief as well as long-lasting improvement in the elasticity of collagen. This improvement can lead to more restful sleep, improved relationships with a significant other, and more productive mental focus and overall well-being.

Educational Objectives:

Recognize the difference between treating sleep disorders and airway/snoring disorders.

Discuss available options for monitoring treatment progress.

Describe protocols for treating snoring and airway issues with the DEKA UltraSpeed CO₂ laser

Laser Information:

Snore Application: DEKA, US-20 D UltraSpeed 10,600-µm Fractional CO₂ Laser, Florence Italy, fractional scanner and intraoral sleep handpiece. Settings: 10 W Continuous Wave, 300 µs, 1000-µm DOT spacing, single or double stack in organized patterns for two passes.

Lip and Tongue Application: DEKA, US-20 D UltraSpeed 10,600-µm CO₂ Laser, Florence Italy, Standard surgical handpiece. Settings: Superpulsed 2 W, 80 Hz, 250-µm beam width.

Thursday, April 21, 2022 | 7:00 pm – 9:30 pm

Nonsurgical Snoring Solutions with a 9.3-micron Laser

Track: Innovations: Sleep

Presenter: Anthony Bolamperti, DDS | Omaha, Nebraska, USA

Audience: Both

Did you know that 67% of the population snores? People who snore typically have an airway issue, and that can complicate other systemic health issues. One major airway issue is tethered oral tissue (TOT), which may cause airway obstruction. TOTs need to be identified and treated at the earliest age possible. When it goes undiagnosed and treated, they can lead to major health complications and negatively affect overall function. In the past, patients who needed intervention for snoring could opt for uncomfortable oral appliances, uncomfortable pull-forward splints, or invasive orthognathic surgery. With a particular laser-assisted application (Solea® Sleep), these patients now have a fast and effective alternative. This is an easy-to-administer protocol for use with a 9.3-micron all-tissue dental laser (Solea, Convergent Dental, Needham, Mass., USA) that provides patients with rapid relief by tightening the soft palate and reducing vibrations that cause patients to snore. Unlike surgical procedures that require long and painful recoveries, Solea Sleep is a nonsurgical treatment that allows patients to immediately return to their daily routines with little to no discomfort.

Educational Objectives:

Summarize available treatment solutions for tethered oral tissues.

Discuss the diagnosis of snoring.

Describe treatment of snoring with the Solea Sleep protocol.

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Dentistry's Laser Meeting

SPEAKERS



Speaker

J. Terry Alford, DMD
Doaa Almiran, BDS, MSc
Lynn Atkinson, RDH

Anthony Bolamperti, DDS
Laura Braswell, DDS
Mel A. Burchman, DDS (*Moderator)

James S. Carreiro, DMD (*Moderator)
James D. Carroll, FRSM
Louis Chmura, DDS, MS
Andrew Cohen, DMD, Diplomate ACSDD
Yolanda Cox, RDH, MEd

Arun A. Darbar, BDS, DGDP(UK) (*Moderator)
Amir Daoud, BDS, DDS, FICOI (*Moderator)
Krystle Dean-Duru, DDS (*Moderator)
Lynda Dean-Duru, DDS (*Moderator)

John Graeber, DMD, MALD, MAGD, FICD
Jeffrey Harrison, DDS (*Moderator)

Isaac Kably, DDS, MSc
Larry Kotlow, DDS
Yuliya Kozlova, DDS, MSc

Speaker

Larry Lieberman, DDS

Samuel Low, DDS, MS, Med (*Moderator)

Camille Luke, RDH, MSDH

Shylon Mathew, DDS

Jeanette Miranda, RDH, BSDH

Hanaa Nassar, DDS, MSc, PhD

Scott Parker, DDS, AASDA

Marina Polonsky, DDS, MSc

Gerry Ross, DDS

Gwen Smukowski, RDH, BSDH, MBA

Grace Sun, DDS, FAACD, MALD, MAGD, MICOI

Ana Maria Triliouris, DDS (*Moderator)

Judson B. Wall, DDS

Angie Wallace, RDH

J. Terry Alford, DMD

Private Practice, Bradenton, Florida, USA



Dr. Alford graduated with honors from the University of Alabama School of Dentistry in 1978 and has maintained a private practice in Bradenton, Florida, for 39 years. He is devoted to excellence and continuing education, and has completed numerous educational and training programs including implant reconstruction at Northwestern University, functional occlusion with Dr. Peter Dawson, bone management and implant placement with sinus elevation from the Bicon Institute, neuromodulators for the treatment of temporomandibular joint disorders, botulinum toxin and facial aesthetic rejuvenation at the Aesthetic Enhancement Institute, facial injectables and Botox® at the Facial Beauty Institute, facial esthetics and rejuvenation using the Fotona Nd:YAG and Er:YAG laser, and other programs. Dr. Alford was elected to the Board of Directors of the International Academy of Facial Aesthetics in 2018. He is a member of the American Dental Association, American Academy of Implant Dentistry, International Academy of Facial Aesthetics, American Academy of Cosmetic Dentistry, and other organizations. Dr. Alford has been using energy-based devices and lasers since 1994 in applications related to aesthetics and dentistry. He uses CO₂, Er:YAG, Er,Cr:YSGG, argon, diode, and Nd:YAG lasers.

Disclosure: Dr. Alford received an honorarium for teaching courses around the country for groups and private trainings.

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Doaa Almiran, BDS, MSc

Private Practice, Mosul, Iraq



Dr. Almiran received her bachelor's degree from Mosul University at 2010. She completed a Biolase laser certification training course in Ankara, Turkey, in 2018; a laser certification training course from Achen Dental Laser Denter in 2019; a certificate from the British Institute of Laser Dentistry (BILD) in 2020; a photobiomodulation course from the Academy of Laser Dentistry and British Academy of Laser Dentistry in 2019; and certification of training on 6 medical lasers at Baghdad University in 2020. Dr. Almiran received her Master of Science in Laser Dentistry in 2018. Currently, she is a specialized dentist in laser sciences in dentistry. She has worked with 9 types of lasers: Waterlase iPlus 2780-nm Er,Cr,YSGG, Epic 940-nm diode laser, CO₂ fractional and surgical, Nd:YAG long-pulsed and Q switched, 810 and 980-nm diode lasers. Dr. Almiran works at the Al-Noor Specialized Dental Center in Mosul, Iraq, where she is the head of laser department. She became am a member of the Academy of Laser Dentistry in 2021.

Disclosure: Dr. Almiran has reported not conflict of interest.

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Lynn Atkinson, RDH

Private Practice, Torrance, California, USA



Lynn Atkinson has been a Registered Dental Hygienist for 32 years. She graduated from Cypress College, California, with a degree in Dental Hygiene and was fortunate enough to be a part of several dental teams that incorporated state-of-the-art technology. Since obtaining the Associate Fellowship Certification through the World Clinical Laser Institute (WCLI) in 1996, Lynn has been actively applying the use of dental lasers in hygiene daily. She went on to achieve the Standard Proficiency Certification through the Academy of Laser Dentistry (ALD) in 2013 and the Advanced Proficiency Certification Parts I and II in 2019. Lynn is currently practicing clinical dental hygiene as Clinical Hygiene Director in Mission Viejo, California, four days a week. She speaks and trains doctors, hygienists, and team members on the use of lasers along with strategies to incorporate dental lasers into their protocol. She is an active member of the Academy of Laser Dentistry, the American Dental Hygiene Association, the California Dental Hygiene Association, the Orange County Dental Hygiene Association, The Western Society of Periodontology, and is a Hygiene Faculty member and Speaker for Biolase. Lynn serves on the Board of Directors at the Academy of Laser Dentistry as Auxiliary Chair, is a member of the ALD Speakers Bureau, and is involved in the Testing Committee. She is married with four children and lives in Torrance, California, where she was born and raised.

Disclosure: Lynn Atkinson is a speaker and educator for Biolase.

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Anthony Bolamperti, DDS

Private Practice, Omaha, Nebraska, USA



Dr. Bolamperti is a general dentist in Omaha, Nebraska, and a graduate of Creighton University Dental School. He began practicing with his father in 1995 and opened his own private practice in 1997. Dr. Bolamperti is a part-time faculty member at Creighton University School of Dentistry. He has more than 15 years of laser dentistry experience.

Disclosure: Dr. Bolamperti lectures for Convergent Dental and receives a modest honorarium for these events.

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Laura Braswell, DDS

Private Practice, Atlanta, Georgia, USA



Dr. Braswell is a practicing periodontist who has been working with lasers since before they were on the market. She is a Charter member of the ALD, has attained ALD Mastership, and serves on the ALD Board of Directors as well as several committees. Dr. Braswell is on the faculty of Dental College of Georgia, Emory University, and Georgia State University, and serves on the FDA Committee for Lasers and Devices.

Disclosure: Dr. Braswell has reported no conflict of interest.

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Moderator: Mel A. Burchman, DDS, MALD

Langhorne, Pennsylvania, USA



Dr. Burchman has maintained a general dentistry practice in Bucks County, Pennsylvania, since 1976. He began using lasers in 1998 and now has eight lasers in his practice. In 2001 he received Advanced Proficiency in Nd:YAG from the Academy of Laser Dentistry (ALD). In November 2003 he received The Science Behind the Clinic of Laser Dentistry award for his presentation on Nd:YAG and Diode Laser Therapy in the Medically Compromised Patient. Also in 2003 his office was featured in Men's Health magazine in the article "The Drill Is Gone." In 2005 Dr. Burchman received Certified Laser Educator status from ALD and received his Certificate of Mastership in 2008. He has been published twice in the ALD journal Wavelengths on the subject of lasers in the care of medically compromised patients and in 2012 received ALD's Leon Goldman Award for Clinical Excellence for this work. He has presented on this topic over 70 times both nationally and internationally and it is his passion. Dr. Burchman has served the ALD as a mentor, examiner, and chairman of many committees, a member of the ALD Board of Directors, Executive Committee, Secretary, Treasurer, and Vice President. He was the keynote speaker at the 2014 OCMIS Laser Conference and the 2019 ALD-BAIRD laser conference in Qatar. In 2015 he was the General and Scientific Chairman of the ALD conference and in 2016 the Co-Program Chair of the American Society of Laser Medicine and Surgery (ASLMS) conference. In 2016 he received his Recognized Course Provider certification from ALD and was the Chairman of its 2019 conference. In 2018 he had the honor to testify before a Congressional Subcommittee on using dental lasers to help control opioid abuse. He was the President of the Academy of Laser Dentistry in 2020 and also helped found GMA Laser Education.

Disclosure: Dr. Burchman is co-founder of GMA Laser Education. Previously he has lectured for Sirona Dental, Benco Dental, and Henry Schein Dental, Advanced Dental Hygiene, Kerber USA, and MedX Laser Health Systems and has received honoraria for his efforts.

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Moderator: James S. Carreiro, DMD

Largo, Florida, USA



Dr. Carreiro is a general dentist and has been utilizing laser technology since 2007. He incorporates laser technology in almost every aspect of patient care including photobiomodulation. Dr. Carreiro is a graduate of Fordham University and earned his dental degree from Boston University School of Dental Medicine. In addition, he holds Mastership Certification and Advanced Proficiency Certification from the Academy of Laser Dentistry, and is a member of the Academy's Speakers Bureau. Dr. Carreiro is also a member of the ALD Executive Board and has also earned Fellowship Certification with the World Clinical Laser Institute.

Disclosure: Dr. Carreiro has a financial interest in Perioscience Corporation and occasionally teaches for Biolase and receives compensation.

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James D. Carroll, FRSM



THOR Photomedicine, Chesham,
Buckinghamshire, United Kingdom

James Carroll has 35 years photobiomodulation experience (since 1987). He is the founder and CEO of THOR Photomedicine and co-founder and investor, LumiThera, Inc. He has co-authored 24 photobiomodulation (PBM) papers and contributed chapters to 5 PBM books. His bibliography is available at <https://publons.com/researcher/4374676/james-carroll/>. James is a recognized authority on PBM dose, dose-rate effects, and the measurement and reporting of parameters. His appointments include: Biomedical Optics Society, conference co-chair (2009 to date); Fellow of The Royal Society of Medicine (2009 to date); Editorial Board of *Photomedicine and Laser Surgery* (2008 - 2013); World Association for Photobiomodulation Therapy (WALT), industry representative (2000 - 2004) and industry representative board member (2018 to date); North American Association for Laser Therapy, board member (2002 - 2006). Notable speaking events include: U.S. Congressional briefing on PBM as a solution for the opioid crisis; White House briefing on PBM as a solution for the opioid crisis; United Nations Global Health Impact Forum on PBM for Dry Age-Related Macular Degeneration (AMD). James received the World Association for Photobiomodulation Therapy Presidential Commendation for service and leadership in the field of Photobiomodulation in 2020, and ALD's T.H. Maiman Award for excellence in dental laser research in 2021.

Disclosure: James receives a salary and expenses from and is a shareholder of THOR Photomedicine. He is also a co-founder of and investor in LumiThera, Inc.

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Louis Chmura, DDS, MS

Private Practice, Marshall, Michigan, USA



Dr. Chmura is the first orthodontist to earn Advanced Proficiency and the first orthodontist to become an ALD Fellow. He has written dozens of scholarly articles on lasers, orthodontics, sleep apnea and technology, including the chapter “Soft Tissue Lasers in Orthodontics” in *Principles and Practice of Laser Dentistry*, and he has made over 100 national and international presentations on these and similar topics. Dr. Chmura’s laser talks not only highlight the basic science behind laser usage, but also cover other aspects of laser usage, including safety considerations, managing workflow, diagnosis and treatment planning, smile design, gingivectomies and frenectomies, and when a referral may be more appropriate.

Disclosure: Dr. Chmura serves as a Key Opinion Leader for a number of companies, including Henry Schein Orthodontics, Dentsply/Sirona, Dental Monitoring, Braces on Demand. He has lectured extensively and receives a modest honorarium (and coach class travel reimbursement) for these lectures. Dr. Chmura receives no salary from any of these companies.

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Andrew Cohen, DMD, Diplomate ACSDD

Private Practice, Jenkintown, Pennsylvania, USA



Dr. Cohen graduated from Syracuse University in 1994 with a BS in psychology and received his DMD degree from Temple University School of Dentistry in 1998. The following year, he completed an advanced education General Practice Dental Residency at Abington-Jefferson Health. In 2019, he earned diplomat status in dental sleep medicine from the Academy of Sleep Disorder Disciplines (ACSDD). He lectures nationally on "Sleep Disorders," "Case Presentation," "Photography," and "Comprehensive Exams." In 2012 he was appointed a visiting faculty position at Spear Education, where he mentors dentists from around the world. He is a contributing author for Spear Digest, an online dental education journal, and is a content moderator for the online dental forum, "Spear Talk." Previously, he served as a clinical instructor at the Temple University School of Dentistry from 1999-2002. He was asked to join the Surgical and Dental Staff at Abington-Jefferson Health in 2000 as a Dental Attending in their residency program. Dr. Cohen earned honors by being named Top Dentist by his peers in Philadelphia Magazine from 2012 through 2021. Dr. Cohen focuses on the benefits of continuing education in both medicine and dentistry. He regularly attends lectures, workshops, and seminars throughout the country. In 2012, he started the Spear Study Group of Philadelphia. He serves on the board of directors for the ACSDD, and is a member of the Academy of General Dentistry (AGD), American Academy of Cosmetic Dentistry (AACD), American Academy of Dental Sleep Medicine (AADSM), and Philadelphia Dental Clinics Club, of which he has been a past president and where he currently serves on the Board and as the Continuing Education Advisor.

Disclosure: Dr. Cohen is visiting faculty, Spear Education, contributing author for Spear Digest, and online content moderator for "Spear Talk."

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Yolanda Cox, RDH, MEd

Blacklick, Ohio, USA



Yolanda graduated from the University of Cincinnati in dental hygiene over 20 years ago. After 3 years working in private practice, she joined the Heartland Dental family. She has a strong passion for continuing education, which has contributed to her professional growth. While at Heartland, Yolanda has worked in several capacities as a dental hygienist, lead hygiene mentor, and clinical educator covering topics such as preventatives, periodontal therapy, ergonomics, leadership, medical emergency, sedation monitoring, and laser dentistry. Her current role is Professional Learning and Development Manager of Doctor Education which involves leading a team of training developers in the design and execution of blended learning programs for 2000+ supported doctors and their teams within the Heartland Dental organization covering the various areas of dentistry. Yolanda lives in Blacklick, Ohio. She enjoys traveling, watching sports, serving her community, and empty-nesting with her husband Richard.

Disclosure: Yolanda Cox is Professional Learning and Development Manager of Doctor Education for Heartland Dental.

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Moderator: Arun A. Darbar, BDS, DGDP(UK)

Smile Creations Innovations, Leighton Buzzard,
Bedfordshire, United Kingdom



Dr. Arun Darbar is a multi-award-winning laser and esthetic dentist. At the forefront of laser dentistry, he has been dedicated to providing cutting-edge dentistry to his patients for over 35 years. He is an accredited member of the British Academy of Cosmetic Dentistry (BACD) and is the credentialing committee chair, a board member, and an examiner. Dr. Darbar continuously runs courses and trains dentists worldwide. He is also an invited speaker and published author on lasers in dentistry worldwide. He has been instrumental in pioneering the use of Low Level Laser Therapy (LLLT), more recently termed Photobiomodulation Therapy (PBM and PBMT), and using high-power surgical lasers with diffusers. He continues to be involved in research and development, designing and beta-testing of numerous laser units. As a leading member of the Academy of Laser Dentistry (ALD), he holds Master, Certified Educator, and Certification Course Trainer status. Professionally he serves on the ALD Board of Directors, is currently the 2021-2022 president, having previously served as the International Relations Committee Chair. In 2018 he served as Chair of ALD General and Scientific Sessions Committee, co-chaired the same for the 2018 Implants-Laser-Esthetics-Digital (iLED) conference in Dubai, and was the chair for the 2021 ALD conference. He is faculty for ALD international fellowship programs. In 2017 Dr. Darbar was the recipient of the prestigious John G. Sulewski Distinguished Service Award. He is a founding member of the International Academy of Innovative Dentistry (IAID).

Disclosure: Dr. Darbar is co-founder of GMA Laser Education. He is not sponsored for this presentation but does provide education for various organizations and receives modest expenses and remuneration.

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Moderator: Amir Daoud, BDS, DDS, FICOI

Clearwater, Florida, USA



Dr. Daoud received his first dental degree from King's College in London and after several years moved to United States and attended the New York University College of Dentistry. He has a passion for technology in dentistry and is on the forefront of digital workflows. He has been immersed in laser dentistry for the past 8 years of practice.

Disclosure: Dr. Daoud has been a paid speaker for both Fotona and Invisalign. He is an executive board member for the American Academy of Clear Aligners.

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Moderators:

Lynda Dean-Duru, DDS, and Krystle Dean-Duru, DDS



Ashburn Children's Dentistry, Ashburn, Virginia, USA

Dr. Lynda Dean-Duru and Dr. Krystle Dean-Duru are Board-Certified Pediatric Dentists and oral airway specialists practicing at Ashburn Children's Dentistry for over 35 years in integrative pediatric laser dentistry. Their practice is the area's leading pediatric dental office in laser dentistry, infant care, and craniofacial growth guidance.

Dr. Lynda Dean-Duru is a Fellow of the Academy of Laser Dentistry and holds a Mastership of the World Clinical Laser Institute. She is a member of numerous dental associations and a Fellow of the American Academy of Pediatric Dentistry and of the United States Dental Institute. She is a Certified Orofacial Myologist, BabyLase and SmileLase provider, and an ALF (Advanced Light Force) provider, the first in the Ashburn, Virginia, metropolitan area to complete all levels required for the ALF Education Institute.

Dr. Krystle Dean-Duru is a Diplomate of the American Board of Pediatric Dentistry. A BabyLase and SmileLase provider, and an ALF provider, Dr. Krystle Dean-Duru is a founding member of the Academy of Applied Myofunctional Sciences and a member of the American Academy of Physiological Medicine and Dentistry and of the International Association of Orofacial Myology.

Disclosure: Dr. Lynda Dean-Duru and Dr. Krystle Dean-Duru have reported no conflicts of interest.

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John Graeber, DMD, MALD, MAGD, FICD

Private Practice, East Hanover, New Jersey, USA



Dr. Graeber has maintained a conservative general practice for nearly 50 years. He was an early adopter of laser technology and has lectured internationally for more than 25 years on lasers and conservative dentistry. He is a co-founder and past president of the Academy of Laser Dentistry and is a recipient of ALD's Leon Goldman Award for Clinical Excellence. He is the co-author and editor of the textbook *Microinvasive Dentistry: Clinical Strategies and Tools*. He is currently serving as co-chair of ALD's Education Committee.

Disclosure: Dr. Graeber lectures for CAO Lasers for which he receives an honorarium.

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Moderator: Jeffrey Harrison, DDS



National Clinical Director for Sleep Group Solutions,
Cortez, Colorado, USA

Dr. Harrison graduated from the University of Missouri, Kansas City School of Dentistry, completed a General Practice Residency at St John's Mercy Medical Center in his hometown of St. Louis, Missouri, and achieved Mastership Certification in laser-assisted dentistry from the World Clinical Laser Institute. Dr. Harrison is the founder of Colorado Laser Dentistry and Sleeping Giant Sleep Solutions. Recognizing that his patients were displaying signs and symptoms of a medical condition beyond what he was taught in dental school and residency, he sought out the finest continuing education programs he could find. Realizing his observations in the mouth were related to things happening elsewhere in the body and vice versa has led him to the exciting, growing, and ever-evolving field of dental sleep medicine. Dr. Harrison joined the team of Sleep Group Solutions as a Regional Medical Director in 2020. His goal is to help as many dentists as he can to realize their vitally important role in the long-term health and longevity of their patients. Now is the time for dentistry to progress beyond fixing teeth and gums and play a larger part in improving and prolonging the lives of their patients through a collaborative health care system.

Disclosure: Dr. Harrison is the Medical Director of Sleep Group Solutions and oversees the sales of their dental sleep medicine program for the western United States. He is also considered to be a key opinion leader for Biolase. Dr. Harrison is speaking on this topic today without receiving any honorarium from either company.

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Isaac Kably, DDS, MSc

Private Practice, CDMX, Mexico



Dr. Kably received his dental surgeon degree from Universidad Tecnológica de México (UNITEC), and attended the international postgraduate program at the New York University College of Dentistry where he obtained his Endodontics Certificate. Dr. Kably has been a private practitioner in endodontics for more than 20 years. He completed the Mastership course “Laser Therapy in Dentistry” from the Aachen Center for Laser Dentistry (AALZ), received a Mastership from the World Clinical Laser Institute (WCLI), and attained his MSc in Lasers in Dentistry from the RWTH Aachen University in Germany where he now lectures.

Disclosure: Dr. Kably reports no economic compensation was linked to his presentation.

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Larry Kotlow, DDS

Private Practice, Albany, New York, USA



Dr. Kotlow is a 1972 graduate of the State University of New York (SUNY) at Buffalo Dental School, and completed his pediatric dental residency at the Children's Hospital in Cincinnati, Ohio, in 1974. He became Board Certified in Pediatric Dentistry in 1980, and is a life member of the American Dental Association (ADA), Life Fellow of the American Board of Pediatric Dentistry (FABPD) life member of the New York State Dental Association (NYSDA) and Third District Dental Society of New York, member of American Academy of Physiologic Medicine and Dentistry (AAPMD), and has been a member of the Academy of Laser Dentistry (ALD) since 2000. He has achieved Mastership from the Academy of Laser Dentistry (MALD), ALD Advanced Proficiency in Er:YAG, Nd:YAG, and CO₂ (9300 nm) lasers, and Standard Proficiency in diode (810 nm and 980 nm) lasers. Dr. Kotlow is the author of more than 30 peer-reviewed articles, two textbooks (*Atlas of TOTS* and *SOS 4 TOTS*) about lasers, infant frenectomies, and breastfeeding. He has contributed to various chapters in six textbooks in laser dentistry.

Disclosure: In the past Dr. Kotlow has provided educational presentations, videos, and consultations to HOYA ConBio lasers and Fotona Powerlase Spa, LightWalker lasers, Xlase diode laser, and Photobiomodulating Lasers. He has contributed to the development of the infant goggles with Innovative Optics. At the present time, he receives honoraria for training and provide education on Solea procedures, laser safety, and laser physics to new Solea dentists for Convergent Dental (developer of the Solea laser). He is a beta tester of new upgrades and software for the Solea all-tissue carbon dioxide dental laser (9300 nm), as well as a dental consultant to and investor in Convergent Dental. Presently he is an investor and developer of soft tissue dental instruments with Armor-Dental.

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Yuliya Kozlova, DDS, MSc

Private Practice, Moscow, Russian Federation



Specializing in laser dentistry, Dr. Kozlova is a private practitioner and also serves as an assistant professor in the Department of Operative Dentistry in the Peoples' Friendship University of Russia. She has received MSc in Lasers in Dentistry from Aachen University in Germany, and recently received Mastership from the World Clinical Laser Institute (WCLI).

Disclosure: Dr. Kozlova has reported no conflict of interest.

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Larry Lieberman, DDS

Private Practice, Palm Harbor, Florida, USA



Dr. Lieberman is a graduate of the New York University College of Dentistry, and a Fellow of the Academy of General Dentistry, Academy of Osseointegration, and International Congress of Oral Implantologists. He maintains a private dental practice in Palm Harbor, Florida, and uses erbium, Nd:YAG, diode, and CO₂ lasers. Dr. Lieberman is a graduate of the Aesthetic Advantage Institute, Misch Implant Institute, and Pankey Institute for Advanced Dental Education. He has received certifications in Invisalign® Technology and the PerioLase® MVP-7™ Nd:YAG Dental Laser. Dr. Lieberman is a member of the American Academy of Cosmetic Dentistry, American Academy of Aesthetic Dentistry, Academy of Laser Dentistry, Florida Dental Association, and a founding member of the Florida Academy of Cosmetic Dentistry and Gulf Coast Dental Outreach. He teaches for the University of Florida Dental School, and lectures on cosmetic dentistry, practice management, and lasers in dentistry.

Disclosure: Dr. Lieberman receives an honorarium for teaching courses around the country for groups and private trainings

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Moderator: Samuel Low, DDS, MS, MEd



University of Florida, Palm Coast, Florida, USA

Dr. Low is Professor Emeritus, University of Florida, College of Dentistry, and an Advisor Member of the Pankey Institute. He is a past president of the American Academy of Periodontology and is a current officer of the Academy of Laser Dentistry. Dr. Low provides periodontists, dentists, and dental hygienists with the tools for successfully managing the periodontal patient. He was selected "Dentist of the Year" by the Florida Dental Association, Distinguished Alumnus by the University of Texas Dental School, and recipient of the Gordon Christensen Lecturer Recognition Award. He is a Past President of the Florida Dental Association and past American Dental Association (ADA) Trustee.

Disclosure: Dr. Low has relationships including compensation and equipment with the following: Biolase, Florida Probe, Perioscience, and EMS.

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Camille Luke, RDH, MSDH

Private Practice, Tumwater, Washington, USA



Camille Luke has practiced dental hygiene since 1992. She worked as clinical lead for the Pierce College Dental Hygiene Department in Lakewood, Washington, and adjunct faculty for Eastern Washington University Department of Dental Hygiene, Cheney, Washington. She currently serves as Director of Education and Clinical Development for a dental group in the Pacific Northwest and continues to practice clinical hygiene. Camille has presented multiple continuing education courses on topics ranging from patient care to personal and professional development. She provides mentoring and coaching to dental hygienists in multiple practices around Puget Sound, helping them create comprehensive wellness programs in their individual dental hygiene departments. She helps them understand how to incorporate the diode laser as a standard of care. Camille is member of the Academy of Laser Dentistry, the American Dental Hygienists' Association (ADHA), and is the current Washington Dental Hygienists' Association President. She is also a member of the American Academy of Oral Systemic Health and an affiliate member of the Academy of General Dentistry.

Disclosure: Camille Luke has reported no conflict of interest.

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Shylon Mathew, DDS

Private Practice, Bronx, New York, USA



Dr. Mathew is currently a practicing pediatric dentist in Bronx, New York. A New York City native, she earned her Doctorate of Dental Surgery degree with thesis honors from the University at Buffalo School of Dental Medicine. She then went on to complete a General Practice Residency at New York Medical College in Westchester, New York. She continued her specialty training in pediatric dentistry at St. Barnabas Hospital in Bronx, New York. Dr. Mathew has been involved in both preclinical and clinical research and has been awarded many accolades for her contributions. Her current research interest is the use of laser dentistry in dental restorative procedures. Dr. Mathews is the 2022 ALD Dr. Seidner Student Scholarship Awardee.

Disclosure: Dr. Mathew has reported no conflict of interest.

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Jeanette Miranda, RDH, BSDH

Private Practice, Sioux Falls, South Dakota, USA



Jeanette Miranda received her associate degree in dental hygiene from Indiana University at South Bend (IUSB) and her bachelor's degree in dental hygiene from Minnesota State University Mankato. She has practiced dental hygiene for more than 40 years in four states and was a clinical hygiene instructor at IUSB. She has attained Standard Proficiency and Fellowship status in the diode laser with the World Clinical Laser Institute; Standard Proficiency, Advanced Proficiency, and Mastership status with the Academy of Laser Dentistry; and Dental Hygiene Implant Certification through the International Congress of Oral Implantologists. Presently Jeanette is a substitute clinical hygienist, serves the Academy of Laser Dentistry on the Communication Committee, the Auxiliary Committee, and the Certification Committee. She is a past-president for the South Dakota Dental Hygienists' Association and lectures on topics including dental laser and dental implants.

Disclosure: Jeanette Miranda is an educator with Hygiene Advantage.

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Hanaa Nassar, DDS, MSc, PhD

Private Practice, Cairo, Egypt



Dr. Nassar completed her PhD in 2018 from Cairo University. She is working as lecturer in the Fixed Prosthodontics Department, Ahram Canadian University, Egypt, visiting lecturer in University of Manchester and University of Dundee, United Kingdom, and maintaining a private practice in Cairo. She is the director of Restorative and Cosmetic Department in the Arab Society for Continuous Dental Education (ASCDE), a premier continuing education society in Egypt. She is member of the American Academy of Cosmetic Dentistry, the American Academy of Implant Dentistry, and the British Society for Restorative Dentistry. Dr. Nassar has lectured in many conferences, both nationally and internationally. She is an active researcher and has been serving as an editorial board member of reputed journals.

Disclosure: Dr. Nassar declares no conflict of interest. She neither lectures for any of the used products used in the presentation nor receives any discounts or honorarium for any of her activities.

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Scott Parker, DDS, AASDA

Private Practice, Woodland Hills, Utah, USA



Dr. Parker graduated from Loma Linda University School of Dentistry in 1996. Since his beginning in teaching in 1998, Dr. Parker has educated thousands of clinicians across the United States and internationally. In that time, he has advocated for increased standards in esthetic and restorative procedures, minimally invasive techniques, and dental technology. Recognized by his peers for his conservative yet progressive approach, as well as his ability to connect on a personal level, Dr. Parker's realistic manner of teaching has made him a highly regarded lecturing clinician and consultant. In addition to speaking and training, he has written or is listed on more than 30 patents or pending patents and has published articles in a variety of respected dental journals. In 2011, after 16 years of dental practice experience, Dr. Parker transitioned from clinical dentistry into leadership roles in the dental industry and most recently serves as the Vice President of Clinical Affairs for DEKA Dental Lasers, where he oversees hands-on in-office clinical laser training and clinical application. Dr. Parker has a deep, hands-on understanding of dental esthetics, lasers, implants, functional reconstruction, and dental technologies. His professional affiliations include or have included: The Academy of Laser Dentistry, Academy of RV Tucker Study Clubs, American Dental Association, American Society for Dental Aesthetics (accredited), and American Academy of Cosmetic Dentistry.

Disclosure: Dr. Parker works full-time for DEKA Dental Lasers as the Vice President of Clinical Affairs.

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Marina Polonsky, DDS, MSc

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Dr. Polonsky graduated from the University of Toronto, Canada, in 1999, with the Dean's Gold Medal of Achievement and maintains a private general practice in Ottawa, Canada, with focus on multi-disciplinary treatment utilizing lasers of different wavelengths. She holds a Mastership with the World Clinical Laser Institute (WCLI), and Master of Science in Lasers in Dentistry degree from RWTH University in Aachen, Germany. She is a recipient of Mastership Certificate from ALD (Academy of Laser Dentistry) and is a recognized member of the ALD Speaker Bureau. Dr. Polonsky is a founder of the Canadian Dental Laser Institute (CDLI), an organization dedicated to providing quality continuing education in Laser Dentistry in Canada. CDLI is the only ALD-affiliated international study club in Canada. Dr. Polonsky is actively involved in the educational aspect of dental laser technology by teaching laser safety courses, diode and erbium certification courses, as well as lecturing world-wide on laser-assisted dentistry. She is a key opinion leader (KOL) and a faculty member for Biolase Technologies Inc. and has been involved in the development of the newest all-tissue laser system, Waterlase Express. Dr. Polonsky is the author of multiple scientific papers, reviews and case reports on the uses of lasers in dentistry. She is the chief editor for *JLAD (Journal of Laser-Assisted Dentistry)* and a peer-reviewer for *LIDS (Lasers in Dental Science)* by Springer. She is the Chief Editor of Laser Dentistry issue and co-editor of General Dentistry March issue of the *Oral Health* journal and is a member of the Executive Committee of the *Oral Health* Journal.

Disclosure: Dr. Polonsky is a trainer for WCLI International, and a key opinion leader for Biolase for Waterlase Plus and Epic X lasers.

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Gerry Ross, DDS

Private Practice, Alliston, Ontario, Canada



Dr. Ross has been using lasers in his practice since 1992 and photobiomodulation therapy (PBMT) since 1993, and has been teaching lasers since 1995. He has a general practice with a subspecialty in facial pain. He has presented more than 200 laser lectures world wide. Dr. Ross has been an ALD member since its inception and was a member of the ALD Board of Directors 2016-2021; he has served on a number of committees and has chaired the Membership Committee. He is a member of the ALD Speakers Bureau and the Laser Help Network. In 2016 he was the recipient of ALD's Leon Goldman Award for Clinical Excellence. He has written 20 articles on lasers and PBMT, has written chapters for 2 textbooks, serves as a peer reviewer for 4 Journals, and is a member of the editorial board of *Photobiomodulation, Photomedicine, and Laser Surgery*. Dr. Ross is also one of the 3 founding members of GMA Laser Education which provides online lectures and courses on laser dentistry.

Disclosure: Dr. Ross is a co-owner of GMA Laser Education which profits from giving laser courses. He gives lectures for several companies and dental organizations and am paid a lecturing fee but has no ownership interest and receives no compensation for sales.

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Gwen Smukowski, RDH, BSDH, MBA

Continuity Consulting, Chicago, Illinois, USA



Gwen Smukowski is the founder of Continuity Consulting, an educator and coach, a national speaker, as well as clinical hygienist in private practice. She maintains her focus on the development and expansion toward excellence in periodontal care and esthetic/restorative team support. This focus on excellence has taken her worldwide as an instructor and speaker on the subjects of laser-assisted periodontal health, practice management, leadership development, operational excellence, integrated marketing, and team-based comprehensive dentistry. Gwen brings this broad prospective of clinical, managerial, and academic experiences to her work. As a consultant and coach, her focus is to inspire and empower dental teams with current research, technology, and the systems necessary to reach new levels of growth and success for their practice.

Disclosure: Gwen Smukowski lectures for Deka Dental and receives a modest honorarium.

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Grace Sun, DDS, FAACD, MALD, MAGD, MICOI

Private Practice, Los Angeles, California, USA



Dr. Sun graduated from the University of Southern California School of Dentistry in 1981 and has maintained a full-time comprehensive cosmetic practice and dental laboratory in the Beverly Hills, California, area since 1983. She advocates education and has been accredited several prestigious statuses, including the first female Accredited Fellow of the American Academy of Cosmetic Dentistry, where she served on the AACD Professional Education Committee in 2017; Master of the Academy of General Dentistry; and Master and Educator of the Academy of Laser Dentistry (ALD), where she served on its Board of Directors. Dr. Sun lectures internationally for dental laser education and holds Mastership with the International Congress of Oral Implantologists (ICOI). As of January 2022, she received Dental Acupuncturist certification with an emphasis on orofacial pain management from the UCLA Center for East-West, Integrative Medicine. She is the 2021 recipient of ALD's Leon Goldman Award for Clinical Excellence. In order to improve the quality of care provided to her patients, she utilizes multiple wavelengths of dental lasers in various treatment procedures. Her articles on dental lasers have been published in *Dental Clinics of North America*.

Disclosure: Dr. Sun is founder of Oral IQ LLC, an oral health care company and therapeutic light manufacturer.

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Moderator: Ana Maria Triliouris, DDS



Private Practice, Merrick, New York, USA

Dr. Triliouris graduated from New York University College of Dentistry in 1977. Since that time she has completed numerous continuing education programs at Harvard, Princeton, Boston University, New York University, and others.

Lasers became her passion in 1991, the year she became a Charter member of the Academy of Laser Dentistry (ALD). Over the decades she has served on several ALD committees and as a member of the Board, culminating in her service as the 2011-2012 ALD President. She also served as chair of the ALD Dr. Eugene Seidner Student Scholarship Fund for many years. Under her guidance, the Student Scholarship program expanded to include Research Grants. Dr. Triliouris is the current chair of the Dr. Eugene Seidner Board of Trustees. She is an active member of the American Dental Association, Academy of General Dentistry, Dental Society of the State of New York, American Association of Women Dentists, and a Fellow of the Academy of Laser Dentistry. She maintains a private dental practice in Merrick, New York, and is as passionate about lasers as she was over 29 years ago.

Disclosure: Dr. Triliouris is in private practice and has no other commercial relationships.

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Judson B. Wall, DDS

Private Practice, Bountiful, Utah, USA



Dr. Wall has been helping patients to feel better for over 20 years. He is a graduate of the University of Utah and received his Doctor of Dental Surgery from the West Virginia University School of Dentistry. He has an impressive list of accomplishments and credentials, including Accreditation by the International Academy of Oral Medicine and Toxicology, a Fellowship with the American Academy of Craniofacial Pain (July 2010), and a Fellowship with the Academy of General Dentistry (June 2007). He is internationally sought after as a lecturer, teaching and training about metal-free dentistry, laser dentistry, zirconia implants, oral infection resolution, temporomandibular joint (TMJ) dysfunction, and sleep appliance therapy. Dr. Wall teaches dentists from around the world how to perform holistic dentistry and hosts in-person training in his state-of-the-art facility in Bountiful, Utah. Dentists travel from far and wide to learn how to diagnose and treat patients in a manner that will have lasting beneficial systemic health effects. Details of Dr. Wall's training programs can be found here: holisticdentaleducation.com. Dr. Wall is also a peer-reviewer for professional publications of AGD articles.

Disclosure: Dr. Wall lectures for Fotona, Swiss Dental Solutions, and Z-Systems. He receives a modest honorarium for time spent lecturing for these companies. He also runs an annual, 7-part education program in Bountiful, Utah.

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Angie Wallace, RDH

Private Practice, Owasso, Oklahoma, USA



Ms. Wallace is a laser educator for the Academy of Laser Dentistry, and has achieved her Mastership with ALD. She is currently the co-chair of ALD's Regulatory Affairs Committee and serves on several other committees. Angie was the 2014 recipient of the John G. Sulewski Distinguished Service Award from the ALD. She has been recognized as an international speaker and provides in-office laser certification courses.

Disclosure Statement: Ms. Wallace provides laser training and educational consulting through her company Laser Hygiene, LLC. She reports modest earnings from tuition for courses, and receives support with lasers for her educational programs from several laser companies. She also speaks for King Dental and Biolase and receives honoraria.

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We appreciate the enormous exchange of learning during ALD's 29th Annual Conference & Exhibition by 25 speakers and 7 moderators and panelists. Congratulations to everyone for *Inspiring* yourself with new knowledge, *Invigorating* yourself, your team, your patients with laser education and *innovating* with new laser techniques and applications.