

The 16th Asian Pacific Association for Laser Medicine and Surgery 2018 (16th APALMS 2018)

October 19-20, 2018

The Berkeley Hotel Pratunam, Bangkok, Thailand

4th International Laser License System (ILLiS)

October 21, 2018

RSU Medical Center, Sukhumvit 31, Bangkok, Thailand



Welcome Message from the Congress President

On behalf of the Organizing Committee, I am very pleased to invite you to the 16th Congress of AsianPacific Association for Laser Medicine and Surgery (16th APALMS 2018) and the 1st Annual Meeting of Thailand Association for Laser Medicine and Surgery (ThALMS) which will be held from October 18-21, 2018 at Berkeley Bangkok Hotel Pratunam, Bangkok, Thailand. The theme is **“Paradigm Shift of Laser Therapy to Excellence Center of Integrative Medicine in Asia”**.

This event will be the first International Laser Medicine and Surgery Congress held in Thailand. It will provide an excellent platform for sharing knowledge, featuring various laser techniques and wide variety of scientific research and presentations. In addition, supporting industry representatives will have the opportunity to meet and present their laser products to both local and international surgeons.

The Congress aims to provide up to date knowledge and skills in laser surgery for the improvement of patient care by multidisciplinary team which includes plastic surgeons, dermato-

logic surgeons, physiatrists, dentists, veterinarians etc., and at the same time contribute to the scientific research and development in laser surgery.

In addition to the academic activities, the Organizing Committee would be most delighted to invite you all to attend our “Cultural Night Gala Dinner” and enjoy our Thai hospitality with beautiful and graceful Thai Dance Show.

Lastly, I would like to express my sincere gratitude to all distinguished speakers, all participants, colleagues, and all our supporters and sponsors for their efforts and dedication in making this congress a success.

I do hope you will join us for an exciting and enriching congress. We will make every effort to ensure that your stay in Bangkok is fruitful, enjoyable and unforgettable.

Sincerely,

Clinical Professor Apirag Chuangsuwanich
Congress President of the 16th APALMS 2018

Scientific Program

Friday, October 19, 2018			
07:00-08:00	Registration		
Room	Mayfair Ballroom A Chairperson: Prof. Leonardo Longo, Dr. Pichansak Bunmas		
08:00 – 08:30	Opening Ceremony Opening Speech: Prof. Apirag Chuangsuwanich (Thailand) President of 16th APALMS Congress		
08:30 – 09:00	Plenary 1: Update Laser and Robotic Technology Prof. Narong Nimsakul (Thailand)		
09:00 – 09:30	Plenary 2: Review of Laser Surgery and Medicine in Taiwan and Some History of APALMS Prof. Ming Chien Kao (Taiwan)		
09:30 – 10:00	Plenary 3: Role of Endoscopic Laser and SEMS Prof. B. Krishna (India)		
10:00 – 10:30	Coffee Break		
Room	Mayfair Ballroom A Chairperson: Prof. Ming Chien Kao Dr.Bunjert Titapiwatanakul	Jubilee Ballroom A Chairperson: Prof.Chen-Jen Chang Dr.Jinda Rojanamatin	
10.30-11.00	Plenary 4: Photobiomodulation (PBM) in Skin Regeneration Prof. Leonardo Longo (Italy)	S1: Aesthetic- Pigmented and facial rejuvenation -10.30-11.00 Fractional Pico Laser for Melasma Dr.Paisal Rummaneethorn (Thailand) -11.00-11.30 Nanofractional RF. for Facial Rejuvenation Dr.Wichai Hongcharu (Thailand) -11.30-12.00 Minimal Invasive Radiofrequency Device for Facial Lifting Dr.Wichai Hongcharu (Thailand)	
11.00-11.30	Plenary 5: Facial Resurfacing Laser Treatment Prof.Chen-Jen Chang (Taiwan)		
11.30-12.00	Plenary 6: Laser Treatment of Pigmented lesion Dr. Abraham Arimuko (Indonesia)		
12:00-13:00	Lunch at North Café		
Room	Mayfair Ballroom A Chairperson: Dr. Renita Windianto Dr.Wichai Hongcharu	Jubilee Ballroom A Chairperson: Prof. B. Krisna Dr. Poonpisamai Suwajo	Jubilee Ballroom B Chairperson: Dr. Abraham Arimuko Dr. Pitawan Rachata
13:00-14:00	S2: Aesthetic – Pigmented Lesion -13:00-13:20 Ultrashort Picosecond Laser for Treatment of Melasma Dr. Wichai Hongcharu (Thailand) -13:20-13:40 Treating Hyperpigmentation by Multi Laser Approach Dr.Renita Widiyanto (Indonesia) -13:40-14:00 Role of Vascular Specific Laser in Melasma Treatment Dr. Jinda Rojanamatin (Thailand)	S3: Plastic Surgery I -13:00-13:20 Laser Treatment of the Induration Penis Plastic and Duputren Syndrome Prof. Leonardo Longo (Italy) -13:20-13:40 CO2 Laser for Upper Blepharoplasty Dr.Apirag Chuangsuwanich (Thailand) -13:40-14:00 Update in Biomodulation &laser therapy for adipocyte proliferation and differentiation from Regenerative plastic surgery to cosmetic contouring surgery Dr.Pichansak Bunmas (Thailand)	S4: Regenerative Medicine and Anti-Aging & Free Paper -13:00-13:20 LLLT.and Orthomolecular Medicine for Holistic Care in Stroke, Cancer, Chronic Kidney Disease and Anti-Aging Dr.Orawan Kitchawengkul (Thailand) -13:20-13:40 Integrative Phytonutrient Substitute Chemical Treatment for Anti - Aging and Chronic Disease Dr.Orawan Kitchawengkul (Thailand) -13:40-14:00 The Effect of “Ledema Light” on post Augmentation Rhinoplasty Edema abd Ecchymosis: A Double -Blind, Randomized,Controlled Trial Dr. Worawat Kaewwichian

PROGRAM AND ABSTRACT OF 16TH APALMS 2018

Room	Mayfair Ballroom A Chairperson: Dr. Abraham Arimuko Dr. Wichai Hongcharu	Jubilee Ballroom A Chairperson: Prof. B. Krishna Dr. Poonpisamai Suwajo	Jubilee Ballroom B Chairperson: Dr. Renita Windianto Dr. Pitawan Rachata
14:00-15:00	S5: Aesthetic – Vascular I -14:00-14:20 Pico Laser for Pigment Lesion, Scar and Birthmarks Dr. Orawan Kitchawengkul (Thailand) -14:20-14:40 Estimate of Thermal Damage of Biotissue in Laser Surgery for Vascular Anomalies Prof. Chen-Jen Chang (Taiwan) -14:40-15:00 Laser Therapy for Congenital Vascular Malformation Prof. Uddhav Patil (India)	S6: Aesthetic – Vascular II -14:00-14:20 Laser And IPL. for Aesthetic Vascular Lesion Prof. Uddhav Patil (India) -14:20-14:40 Recent Advance in Treatment of Varicose Vein Prof. Uddhav Patil (India) -14:40-15:00 Endovascular Ablative Laser Treatment for Varicose Vein in Thailand Dr. Trakan Chaivanit (Thailand)	S7: General & Surgical Oncology, GYN -14:00-14:20 Multi Modalities Approach for Vagina Tightening and Rejuvenation Dr. Orawin Vallibhakara (Thailand) -14:20-14:40 1318-Nm-Laser-Technology in Lung Surgery is an Unique Therapy in Selected Metastatic Patients: Technique, Results and New Approaches Dr. Alexander Kern (Germany) -14:40-15:00 “Evidence for Laser Resection of Lung Metastases Form Renal Cell Cancer in Era of Targeted Therapies” Dr. Alexander Kern (Germany)
15:00-15:30	Coffee Break		
Room	Mayfair Ballroom A Chairperson: Prof. B. Krishna Dr. Poonpisamai Suwajo	Jubilee Ballroom A Chairperson: Dr. Sharon Krishna Dr. Pitawan Rachata	Jubilee Ballroom B Chairperson: Dr. Abraham Arimuko Dr. Bunjert Titapiwatanakul
15:30-16:30	S8: Aesthetic - Rejuvenation -15:30-15:50 Ultrashort Picosecond for Facial Rejuvenation Dr. Wichai Hongcharu (Thailand) -15:50-16:10 Plasma RF. for Periorbital Tightening Dr. Orawan Kitchawengkul (Thailand) -16:10-16:30 Mechanism of Action for Rejuvenation Laser Prof. Uddhav Patil (India)	S9: Plastic Surgery II – Wound and Scar Management -15:30-15:50 Multimodalities Approach to Scar Management Prof. Uddhav Patil (India) -15:50-16:10 IPL & QS Lasers for Pigmented & Newer Indications Prof. Uddhav Patil (India) -16:10-16:30 Role of Q Switch Nd: Yag for Treating Hyperpigmented STSG Dr. Warangkana Tonaree (Thailand)	S10: Basic Laser & Complications -15:30-15:50 Management of Laser Complications Dr. Jinda Rojanamatin (Thailand) -15:50-16:10 Side Effect of Laser Treatment, How Can I Do It. Prof. Leonardo Longo (Italy) -16:10-16:30 No Smoking in Surgery!!! It's Time to Clear the Air of Surgical Plume Penny J. Smalley, RN. CMLO, MACRON (USA)
16:30-17:30	Executive Committee Meeting APALMS		
18:00-20:00	Cultural Night Gala Dinner at Jubilee Ballroom		

PROGRAM AND ABSTRACT OF 16TH APALMS 2018

Saturday, October 20, 2018

Mayfair Ballroom A			
Room	Chairperson: Prof. Chen-Jen Chang, Prof. Narong Nimsakul		
08:00 – 08:30	Plenary 7: "History of ISLMS (International Society for Laser Surgery and Medicine) and WFSLMS (World Federation of Societies for Laser Medicine and Surgery) Prof. Toshio Oshiro (Japan)		
08:30 – 09:00	Plenary 8: Review of Vascular Anastomosis by CO2 Laser Prof. Dr. Masayoshi Okada (Japan)		
09:00 – 09:30	Plenary 9: Laser, Peace & Wartime Applications with Special Emphasis on Military Medicine: A Review Dr. Abraham M. Baruchin (Israel)		
09:30 – 10:00	Coffee Break		
Room	Mayfair Ballroom A Chairperson: Prof. Carlo Fornaini Dr. Bunjert Titapiwatanakul	Jubilee Ballroom A Chairperson: Dr. Abraham M. Baruchin Dr. Warangkana Tanaree	
10:00-10:30	Lecture 1: Laser Therapy for Oral Health Promotion in Older People Prof. Sajee Sattayut (Thailand)	Lecture 2: "Oshiro Classification of Low Level Laser Therapy: LLLT." Prof. Toshio Oshiro (Japan)	
10:30-11:00	Lecture 3: Laser in Bronchology and Laser Therapy for Solitary Rectal Ulcers Dr. Sharon Krishna (India)	Lecture 4: "Laser Dosimetry" Dr. David Slinley (USA)	
Room	Mayfair Ballroom A Chairperson: Dr. Sharon Krishna Dr. Pitawan Rachata	Jubilee Ballroom A Chairperson: Prof. Dr. Masayoshi Okada Dr. Pichet Yiemsiri	Jubilee Ballroom B Chairperson: Prof. Sajee Sattayut Dr. Phillip Tsui
11:00-12:00	S11: Energy Base: Body & Bromhidrosis -11.00-11.20 Innovative Macro HIFU for Body Rejuvenation Dr. Atchima Suwanjinda (Thailand) -11.20-11.40 RF: The Solution for Bromhidrosis Dr. Atchima Suwanjinda (Thailand) -11.40-12.00 Striae treatment: What is the options? Dr. Atchima Suwanjinda (Thailand)	S12: Sport Medicine I & Laser safety -11.00-11.20 Principle and Roles of Laser Therapy in Musculoskeletal Pain and Sport Injury Dr. Sumeta Jerachotechueantaveechai (Thailand) -11.20-11.40 Laser Therapy: Different Forms of Application Dr. Komwudth Konchalard (Thailand) -11.40-12.00 International Standards Based Risk Management: Key to Laser Safety Penny Smalley (USA)	S13: Laser Dentistry I -11.00-11.20 "Laser in Dentistry General Review" Prof. Dana York (France) -11.20-11.40 Use of Laser Therapy in Conservative Dentistry Prof. Carlo Fornaini (Italy) -11.40-12.00 Biomodulation for oral medicine Dr. Elisabetta Merigo (Italy)
12:00-13:00	Lunch at North Café		
Room	Mayfair Ballroom A Chairperson: Dr. Amaranilla Llita Drijono Dr. Warangkana Tanaree	Jubilee Ballroom A Chairperson: Prof. Leonardo Longo Dr. Pongthip Unprasert	Jubilee Ballroom B Chairperson: Prof. Dana York Dr. Chompoonoot Chitrapatima
13:00-14:00	S14: Aesthetic - Hair Management -13:00-13:20 Role of Laser in Hair Restoration Dr. Rattapon Thuangtong (Thailand) -13:20-13:40 Laser Hair Removal in Asian People Dr. Bunjert Titapiwatanakul (Thailand) -13:40-14:00 Giant Hairy Nevus: How I do it? Dr. Pitawan Rachata (Thailand)	S15: Sport Medicine & Rehabilitation II -13:00-13:30 The Evolution of High Intensity Laser Therapy for Pain Management Mr. Lucio Zaghetto (Italy) -13:30-14:00 Laser and physical therapy in treatment of spinal cord injuries Dr. Diego Longo (Italy)	S16: Laser Dentistry II -13:00-13:20 Integrative of Laser in Clinical Dentistry Dr. Phillip Tsui (Hong Kong) -13:20-13:40 Fundamental Application of Er,Cr:YSGG and Diode 980 nm Wavelength in Oral Medicine Dr. Salam Alakash (Jordan) -13:40-14:00 Various Application of ER; CR: YSGG and Diode Laser in Daily Practice Dr. Chompoonoot Chitrapatima (Thailand)

PROGRAM AND ABSTRACT OF 16TH APALMS 2018

14:00-15:00	S17: Aesthetic: Energy- Base Device for facial Lifting -14:00-14:20 HIFU: How to Achieve Best Result? Dr.Atchima Suwanjinda(Thailand) -14:20-14:40 HIFU Complication Dr.Atchima Suwanjinda(Thailand) -14:40-15:00 Skin Laxity and Energy-Base Device: Dermatologist Perspective Dr.Sasima Eimpunth (Thailand)	S18: Sport Medicine & Rehabilitation III -14:00-14:20 Evident Base and Experience of Laser Therapy in Acute Musculoskeletal Pain and Sport Injury Dr. Pichet Yiemsiri (Thailand) -14:20-14:40 Evidence Base and Experience of Laser Therapy in Chronic Musculoskeletal Pain and Sport Injury Dr. Chakarg Pongurgsorn (Thailand) -14:40-15:00 Biostimulation for Nerve Regeneration Dr. Vantubtim Dhanakoses (Thailand)	S19: Laser Dentistry III -14:00-14:20 Laser for Cosmetic Dentistry Dr. Kenneth Luk (Hong Kong) -14:20-14:40 The Role of Laser in Photobiomodulation and Orthodontics Dr. Kenneth Luk (Hong Kong) -14:40-15:00 Laser in Oral Surgery Prof. Carlo Fornaini (Italy)
15:00-15:30	Coffee Break		
Room	Mayfair Ballroom A Chairperson: Prof. Uddav Patil Dr. Pongthip Unprasert	Jubilee Ballroom A Chairperson: Dr. Abraham Arimuko Dr. Bunjert Titapiwatanakul	Jubilee Ballroom B Chairperson: Prof. Carlo Fornaini Dr. Upasana Sethi Ahuja
15:30-16:30	S20: Aesthetic – Acne & Acne Scar -15:30-15:45 Can We Prevent Acne Scar with a Lunch Time Procedure Laser Modalities Only: Preliminary Study with a 6 Months of Post Laser Observation Dr. Amaranila Llita Drijono (Indonesia) -15:45-16:00 Difference Depth Parameter of Fractional Co2 Laser for Acne Pits and Scar in Skin of Color Prof. Uddhav Patil (India) -16:00-16:15 Laser Therapy for Acne and Acne Scar Dr.Bunjert Titapiwatanakul (Thailand) -16:15-16:30 Laser for Acne and Acne Scars: Choosing The Evidence to Guide Clinical Practice Dr.Nanticha Kamanamool (Thailand)	S21: How I do it for Laser Medicine and Laser Dentistry & Free Paper -15:30-15:45 A Novel Approach in Photodynamic Therapy: Advances in the Treatment of Onychomycosis Dr. C Pedrinazzi (Italy) -15:45-16:00 The Novel Treatment of Post operative Edema and Ecchymosis in Facial Aesthetic Surgery Dr. Worawat Kaewwichian (Thailand) -16:00-16:15 Comparative Evaluation of the Efficacy of the Diode Laser in Both Contact & Non Contact Mode and 0.1% Triamcinolone Acetonide Mouth Paste in Treatment of Oral Ulcers- an Invivo Study Dr. Upasana Sethi Ahuja (India) -16:15-16:30: Efficiency of Qswitched Nd: YAG1064 Laser on Split Thickness Skin Graft for Prevention in Long Term Study: A Randomized Control Trial Dr. Atthawit Mongkornwong (Thailand) -16:30-16:45 Use of Dermoscopy in Optimizing Laser Outcomes Dr. C Pedrinazzi (Italy)	S22: Pediatric Laser Dentistry IV -15:30-15:50 Laser in Pediatric Dentistry: Form Infant through Adolescence Dr. M S Saravanakumar (India) -15:50-16:10 Laser in Tongue Tie Management-Breast Feeding to Speech Dr. M S Saravanakumar (India) -16:10 -16:30 Role of ER, Cr: YSGG Laser in Pediatric Dentistry Dr.Gyanendra Kumar (India)
16:30-17:00	General Assembly Presentation Awards & Closing at Mayfair Ballroom A		

ILLiS Course: Sunday, October 21, 2018

Room	Room A	
07.00 - 08.00	Registration	
08.00 - 08.30	Opening course Prof. Apirag Chaungsuwanich, Prof. Toshio Oshiro	
08.30 - 09.30	Radiometric Quantities and Unit used in Photobiology Dr.David Sliney (USA.)	
09.30 - 10.30	Laser safety and Photo-biological Interaction Prof. Toshio Oshiro (Japan)	
10.30 - 11.00	Coffee Break	
11.00 - 11.45	Laser Safety – Key to building a safe Laser Program Penny J. Smalley, RN. CMLO, MACRON (USA.)	
11.45 – 12.15	Overview of laser Dentistry Prof.Sajee Sattayut (Thailand)	
12:15 - 13:00	Lunch	
Room	Room A	Room B
13:00 - 14:00	Basic Hand on Group I	Basic Hand on Group II
Room	Room C	Room D
14:00 - 15:00	Basic Hand on Group III	Basic Hand on Group IV
15:00 - 15:30	Coffee Break	
15:30 - 16:30	Writing Examination	
16:30	Certificate & Closing	

Basic Hand on Group I, II, III and IV are rotate to room A, B, C and D

Note:

1. International Laser Specialist Certificate from
: World Federation of Society for Laser Medicine and Surgery (WFSLMS)
: International Society for Laser Medicine and Surgery (ISLMS)
: Asian-Pacific Association for Laser Medicine and Surgery (APALMS)
2. To be membership of International Society for Laser Medicine and Surgery (ISLMS) 5 Years
3. Receive Laser Therapy journal, 5 Years

Detail for International standard ILLiS and Certificate in <http://islsm.info.com/certification-criteria.asp>

Update Laser and Robotic Technology

Prof. Narong Nimsakul, M.D., F.I.C.S.

Honorary President, APALMS Bangkok, Thailand

The Author started CO₂ Laser application in Plastic & Reconstructive Surgery back in 1977, after learning the technology from Prof. Isaac Kaplan (Israel).

At the initial period during 1977-1980, the applications are mostly with hand piece holding application.

Then, in 1980-1990, developed the Scanner for CO₂ laser with NIIC Company (Japan), with the cooperation from Mr. Suenaga (NIIC president) and Engineering Department of Tokai University, Japan, the scanner based on the robotic technology can be adapted with any CO₂ laser as international adaptor.

Then, in 1981-1985, Co-develops scanner for use with He Ne laser with Senko Medical instrument MFG. Co., Ltd. Japan, and the application has been widely expanded in LLL Therapy, for Laser acupuncture, Laser for Rehabilitation, for Orthopedic Surgery and Sport Medicine, in clouding wound healing in Plastic Surgery.

Recently with more sophisticated development of Robotic technology, the Thailand-made Robot “Dinsaw” by CT Asia Company, the only 100% own Thai company, developed Robot as operating-room assistant, using the Robot as assistant in Laser Surgery, surgical-training guru for young surgeons, Toward the 21st century, the pro and con of development of Robots for Surgery will be fully discusses, including the legal aspect in using the Robot as assistant-surgeon in the operating room.

Photo Bio Modulation (PBM) in Skin Regeneration

Leonardo Longo, MD

IALMS – International Academy Laser Medicine and Surgery

Institute for Laser Medicine – Florence

Background and Objectives: The first laser treatment in human tissue regeneration was performed in 1966 in Hungary (E. Mester) and in 1975 in Italy, in Florence (A.G. Sesti), for the healing of patient with decubitus ulcers. Then different types of laser visible and near infrared were used, with different procedures, not always following the rules of the clinical research, as Helsinki Declaration and other similar protocols. Today the anti-inflammatory effects of NonSurgical Laser Therapy (NSLT) on the tissue irradiated are generally accepted, as the effects on wound healing. In addition, Intense pulse lamps (IPL) and Light Emitting Diodes (LED) could have effects in human tissue regeneration, so scientific community calls this chapter of the medicine Photo Bio Modulation (PBM).

Purpose: Aim of our study is to select the patients where some laser beams are best choice for the treatment of their skin lesions and to investigate further cases where the effects of the lasers and light could be useful. We briefly describe and discuss the state of the art in the aesthetic skin laser and light therapy field.

Study Design/Materials and Methods: In this field, Laser Wavelengths most frequently used are from 532 until 10600 nm. The pulse light and the LED too have a right role in aesthetic medicine and we will discuss also about that. In aesthetic Medicine, PBM used frequently with the procedure of the nonablative rejuvenation, for wrinkles, cutaneous dystrophies, hypertrophic scars, stretchmarks, acnes. But lasers and light could have effects also on the body metabolisms and on the energy circulation of the body. In past years we treated patients with one laser alone, last two year we treated patients with more lasers and light together contemporary, as multi-wavelength laser treatment. We treated patients of both sex ranging from 14 to 70 years of age, that were resistant to treatment with various other therapies, interrupted two months before the laser therapy. The lesions were located on the face, pre-sternal region, lower abdomen, arms and femoral regions. Laser was used with fluence 4-20 Joule/cm² and more, measured on the tissue; pulse light was used with 35-45 J/ cm² indicated on the display of the instrument. We made cycles of 3-10 applications, at a rate of one application for 20 days.

Results and discussion: We evaluated the results each 4 applications, according to the clinical and morphological parameters color, depth, length, size of the lesions, absence/presence of inflammation and tissue regeneration. In total, positive results were obtained in high precentral of patients, with follow up positive after two years. Simultaneous irradiations with 2 lasers and pulse light seem to give better results in less time in the majority of lesions.

Facial Resurfacing Laser Treatment

Cheng-Jen Chang, MD, PhD, FACS

Department of Plastic Surgery, Taipei Medical University Hospital

There are numerous resources and advanced techniques for face lifting, blepharoplasty, and chemical peeling to restore signs of aging (wrinkles, skin atrophy, and surface irregularities) and actinic damage (hyperpigmentation, dermal thickening, hyperkeratosis, and loss of elasticity). Advances in laser technology have resulted in the development of lasers that can precisely remove thin layers of skin with minimal thermal damage to the surrounding tissue. Laser skin resurfacing refers to the use of char-free laser energy to precisely ablate or vaporize skin in very thin layers, with a high level of control and without affecting deeper layers of dermis. These lasers rely on rapid pulsing or scanning of the laser beam, producing more predictable and reproducible effects; therefore they are ideal for skin resurfacing. In this presentation, further insights on the effects of various lasers, laser resurfacing techniques, post-operative care, and management of complications during and after laser resurfacing are discussed.

Ultrashort Picosecond Laser for the Treatment of Melasma

Wichai Hongcharu, M.D.

The picosecond laser is a groundbreaking innovation that can be applied not only for the removal of tattoos and the treatment of various pigmentary conditions, it can also improve skin texture and quality for a unique rejuvenation effect characterized by improved skin clarity, reduced fine lines and wrinkles, and reduced pore size. Instead of using the longstanding photothermal approach to treatment via selective photothermolysis, the picosecond laser is designed to cause a photomechanical effect beneath the skin. This preserves barrier function and is associated with less pain and downtime than typical photothermal laser treatments.

US FDA cleared for treatment of pigmented lesions and the removal of tattoos, Picoway is the only device in its class to feature three wavelengths in a single platform: 1064 nm, 532 nm, and 785 nm. It also features the extremely short pulse duration at 300 ps; moreover, it provides selectable durations (300, 375, 450PS).

The present data indicate that there may be a size gradient of melanosomes encompassing the global complexion coloration and that the melanosome distribution in keratinocytes of Asian skin is intermediate between that in light Caucasian and dark African/American skin. in Asian skin ($1.36 \pm 0.15 \mu\text{m}^2 \times 10^{-2}$). Melanosomes within keratinocytes of Asian skin are distributed as a combination of individual and clustered melanosomes with a proportion of 62.6% vs. 37.4%, respectively. The individual melanosome has larger size compared to cluster melanosomes Melasma is a pigmentary disorder which has no promising solution at present.

Melasma is a commonly acquired hypermelanosis and a common dermatologic skin disease that occurs on sun-exposed areas of the skin. The methods of treatment include melanin biogenesis pathway blockers, depigmenting agents, chemical peels, dermabrasion and laser treatments. The topical agents including hydroquinone and tretinoin are the most well-known treatment for melasma, but the treatments have not been very effective for Asian skin types. The main reason is that these agents have limitations in removing the persistent overproduced melanin within the epidermis and dermis. So far, laser treatments have been attempted with few successes and many failures, which result from induced post-inflammatory hypermelanosis. These failures were caused by the lysis of cells that contain melanosomes due to heating from the high fluence of the laser.

We studied retrospectively back on 100 melasma patients with Picoway toning. We selected the melasma patients who have not response to tranxaminic acid (either oral or intralesionl administration) or other laser toning for picoway treatment. Patients received 450ps alone or 450 ps plus 350 ps or 450 ps plus 300 ps laser.

We found most patients have a good satisfaction rates with 450 ps plus 350 or 300 ps laser.

In summary, Ultrashort picosecond laser give a promising results for the treatment of refractory melasma. The application various ultrashort pulse durations is recommended to get rid of various type and size of melanosomes.

Treating Hyperpigmentation by Multi (Dual) Laser Approach

Renita Widiyanto

Laser Skin Rejuvenation Clinic, Pluit Hospital, Jakarta, Indonesia

Laser technology has made rapid strides over the past decade, considerably enhancing our ability to treat pigmented lesions with greater degree of efficacy and safety. Every laser has its own limitation and therefore, use of a single laser, at times may not achieve the desired degree of result. In such a situation addition of another laser in the treatment protocol can give the best possible result.

The 1064 nm wavelength of the QS-Nd:YAG laser is well absorbed by melanin. Also, being a longer wavelength it has deeper penetration through the skin targeting dermal pigment at the same time causing minimal damage to epidermis.

Fractionation of the laser beam into thousand of micron size beam is a recent advancement in laser delivery technology. In fractional photothermolysis, microscopic zones of thermal damage are created leaving the majority of the intervening skin intact. This normal skin serves as a reservoir for healing.

These multiple columns of thermal damage are called Microthermal Treatment Zones (MTZ) and they lead to extrusion of Microscopic Epidermal Necrotic Debris (MENDs) which also includes pigment in the basal layer.

There are numerous advantages of fractional laser therapy. The technique does not create an open wound. The stratum corneum is found to be intact after 24 hours of treatment. Hence, the recovery is faster and complications of open wounds such as hyper or hypopigmentation are avoided. Also the risk of scarring is less. During treatment greater depths of penetration can be achieved as entire skin surface is not ablated.

Therefore, in multi (dual) laser approach combining fractional laser first and followed immediately by QS 1064 nm laser pass one can achieve better results than achieve with QS alone. The probably explanation for the enhanced results is fractionated tunnels help for easy extrusion of the dermal pigment.

Laser Treatment of The Induration Penis Plastic and Duputren Syndrome Modificare

L Longo, MD, D Longo, PT, G Cherubini, PT, V. Mangé, PT

Institute Laser Medicine, International Academy for Laser Medicine and Surgery, Florence, Italy

Background: From 1980 Laser Therapy was proposed in the treatment of the collagen disorders, as Dupuytren disease and Induratio Peinis Plastica, but her role is still under investigation.

Purpose: We would like to investigate the clinical effects of more laser used contemporaneously in the reduction of the recovery time of the Dupuytren Syndrome of different degree and La Peyronie's Syndrome, called too Induratio Penis Plastica (IPP). We used high level of energy, watts rather than milliwatts, reducing the duration of each application, the number of application for cycle, and the number of the cycles in total.

Material and Methods: We performed cycles of 20 session of irradiation with a diode laser 810 nm, 12 J/cm²; a Nd-YAG Laser 1064 nm, PW, spot/size 6 mm², 35 J for spot ; CO₂ laser 10600 nm, 36 J/spot: the lasers were applied sequentially, in each session. Total energy was variable with the localization and the nature of the injury. Hands echography and Penis echography established the exact localization and extension of the pathologic fibrous tissue, as plaque, nodules, ring. From 2013 we selected 20 patients with IPP and 20 with Dupuytren Syndrome, , 35-65 years old, selected following the same criteria: phlogosis sign present since twelve months and more, negative results with other two types of physical therapy, exclusion of surgical cases.

Results: Ecographic test was repeated 1 month after the treatment, for the evaluation of the results. Further parameters of results evaluation were presence/absence of pain, phlogosis, recurvatio and functional limitation. The control were done comparing similar cases no treated with laser, selected with random criteria.

Discussion: Multiwavelength Laser therapy of Dupuytren and La Peyronie's Syndromes had a high percentage of positive results, in total. If the reduction was less than 50% after first cycle, we repeated further cycles, with same procedure. In average we performed three cycles /year for patient. The reduction of irradiation time for each session, the reduction of the number of sessions and of the cycles necessary for to obtain the improvement of clinical signs is very important. In opposite, the supposed negative effects of laser beam employed at high dosage of energy don't appear, because the skin and the other tissue don't present burns, if we respect the thermal relaxation time of the tissue irradiated.

CO₂ Laser for Upper Blepharoplasty

Apirag Chuangsuwanich, M.D.

Division of Plastic Surgery, Faculty of Medicine Siriraj Hospital

Upper blepharoplasty is a common operation. Other than the good end results from the operation, the patients also expected minimal swelling and short recovery time. Many methods have been introduced for reduction of swelling and bruising such as fine tip cautery, plasma knife and CO₂ laser. The author will present his experiences of using CO₂ laser in upper blepharoplasty.

Innovative Combination Technique for Lower Face and Neck Contouring and Rejuvenation

Dr.Pichansak Bunmas, MD.

*Plastic and Reconstructive Surgery
Department of surgery, Faculty of Medicine, Burapha University
VPast Institute of Aesthetic and Plastic Surgery Center, Chon Buri, Thailand*

Background: Jowl or sagging facial skin and double chin are the major contributor sign of aging face. Most Asian people want to make harmony V-line along the cervicomental angle. There are many procedure to correction of this problems. Minimal invasive surgery is the most challenge procedure. The author is used combination endolaser lipolysis and endoscopic assist to latysmo-SMAS fascia lifting technique for correction of this problems.

Materials and Methods: Since between July2011-February 2016, we includes 194 patients in this study. Mean age of patients is 26 years. All patients underwent to lower face and neck contouring under general anesthesia. Endolaser lipolysis of lower face and jowl and double chin was done first and then aspirate suction fat was done follow. After that used of endoscopic assist to release retaining ligament and applied silastic thread to plication of platysmo-SMAS fascia lifting. All patients had evaluations and took photography at 1,2 weeks and 1,3,6 months after surgery.

Result: All patients were improved in facial appearance. The degree of patients satisfaction at 3,6 months showed excellent 30,44 (40.54, 59.46), good in 38,69 (35.51, 64.49), fair in 7,4 (63.64,36.36), poor in 2,0 (100.0,0). Only one patient has asymmetry lower facial contour and improvement after conservative treatment 6 month later. One patient has proceed to combine chin augmentation due to retrorathia. Four patients has hypertrophic scar and improvement after applied digital massage. No patient has facial palsy.

Conclusion: Endolaser lipolysis with endoscopic assistant platysma and SMAS lifting technique can be induce the harmony lower face and neck contouring and rejuvenation. Long term effect of lipolysis can be improve skin quality too.

LLLT and Orthomolecular Medicine for Holistic Care in Stroke, Cancer, Chronic Kidney Disease and Anti-Aging

Dr.Orawan Kitchawengkul

The holistic care with Low Level Laser Therapy and Orthomolecular Medicine case reports in Stroke, HD, Cancer, CKD, Alzheimer, Dementia & Anti-Aging will be presented.

Integrative Phytonutrient Substitute Chemical Treatment for Anti-Aging and Chronic Disease

Dr.Orawan Kitchawengkul

The innovative integrative phytonutrient substitute chemical treatment for anti-aging & chronic disease will be presented.

The Effect of “Ledema Light” on Post Augmentation Rhinoplasty Edema and Ecchymosis: A Double-Blind, Randomized, Controlled Trial

Worawat Kaewwichian MD ¹, Mana Sriyudthsak D Eng ²,
Poonpissamai Suwajo MD ¹

*1: Plastic and Reconstructive Surgery Unit, Department of Surgery, Faculty of Medicine,
Chulalongkorn University, Bangkok, 10300*

*2: Department of Electrical Engineering, Faculty of Engineering, Chulalongkorn University,
Bangkok, 10300*

Background: Edema and ecchymosis are major concern following rhinoplasty. It has been hypothesized that phototherapy improves this consequence. Objective: To prove an efficacy of “LEDEMA Light” on recovery after rhinoplasty.

Material and Method: Twenty-two patients were randomized into 2 groups, sham light group and “LEDEMA light” (LED (Light-Emitting Diode) 840-850 nm, and 395 nm) group. Following rhinoplasty, each group were given phototherapy 4 times: immediately, at 48 hours, day 4, and day 6. Four panelists rated extent and color of ecchymosis and severity of edema at day 2, and the end of the 1st and 2nd week post operatively.

Result: One male and 21 females, mean age 26.6 ± 6.4 . On post-operative day 2, there were no significant differences in ratings of extent and color of ecchymosis and severity of edema among groups. At 1 week post-operatively, LEDEMA light group demonstrated a significantly lower score on extent of ecchymosis ($p = 0.017$) and severity of edema ($p < 0.001$). There were no significant differences at 2 weeks. For difference of ratings between day 2 and 1 week, LEDEMA light exhibited significantly more resolution of extent of ecchymosis ($p = 0.013$) and edema ($p = 0.007$) but no significant difference between day 2 and 2 weeks. Evaluation on pain at day 2 and the days to healing, both were significant superior in LEDEMA light group, but no difference of satisfaction.

Conclusion: The study suggests that LEDEMA light is effective in reducing extent of ecchymosis, edema, pain, and days to healing after rhinoplasty.

Pico Laser for Pigment Lesion, Scar and Birthmarks

Dr.Orawan Kitchawengkul

The innovative Pico second Laser treatment in Thailand for pigmented lesions, scar & birthmark will be presented.

Estimation of Thermal Damage of Bio-tissue in Laser Surgery for Vascular Anomalies

Cheng-Jen Chang, MD, PhD, FACS

Department of Plastic Surgery, Taipei Medical University Hospital

In medical lasers, the energy must be properly controlled to avoid unnecessary thermal damage of normal tissue due to excessive irradiation. When a laser source is applied to a specific target that is very close to the surface tissue, residual heat can damage the surface tissue even after the laser treatment is halted. This study aims to determine the proper conditions for the laser treatment and the prediction of the thermal damage of surface tissue after the laser is applied. An 810 nm diode laser was used to irradiate porcine liver and the surface temperature was measured using infrared thermography for different laser application processes. The Pennes bioheat transfer equation was solved using the ANSYS software package to simulate the surface temperature and thermal damage zone in laser surgery. The double ellipsoid function represented the laser source term in the heat transfer simulation. The results of the simulation were compared with the experimental data. Finally, a transient analysis of the estimations of thermal damage after laser surgery was conducted for different conditions of power, laser irradiation time, and laser depth under the surface of the porcine liver. This model may be referred in clinical for vascular anomalies.

Laser and IPL for Aesthetic Vascular Lesions

Uddhav Patil MS MCh (Plast. Surg.) MACPhleb (USA)

D. Y. Patil Medical College and Hospital, Kolhapur, INDIA

LakshyaKiran Therapeutic Lasers and Research Institute Pvt. Ltd., Kolhapur, INDIA

Background: Lasers beams have a single wavelength while IPL has a band of wavelengths between 400 to 1200 nm. In IPL, different cut off filters cut off shorter wavelengths from below 515 nm to below 755 nm. Now filters are available to cut off longer wavelengths above 900 nm (I2PL: Second generation IPLs). Whether laser or IPL its depth of penetration below the skin surface is directly proportional to wavelength till 1100 nm from where increasing absorption in water reduces its penetration. In short, lasers act their best at a particular depth below skin depending on their wavelength. While IPLs act at many levels of depth as they have a band of wavelengths which can penetrate differently.

Method: Indian skin is most commonly of skin type V and VI and rarely of type IV. It means we are dealing with skin of color as is true for any Asian country. Shorter wavelengths below 590 nm have shallow penetration and much greater absorption in epidermal melanin giving rise to epidermal burns. Therefore, the cut off filters most commonly used in these darker skin types are 590, 615, 640, 645, 695 and 755 nm. Out of these 590 nm is used for conditions with vascular dominance as oxy hemoglobin has its third peak of absorption here. Cut off filter 615 nm and 640/645 nm are used for pigmentary conditions. For epidermal pigment 615 nm and for dermal pigment 640/645 nm. Cut off filter 755 nm is used mainly in collagen tightening in rejuvenation procedures as it increases penetration depth. Choice of multiple synchronized pulsing in IPL helps in protecting epidermis and chill tip variants add more safety.

Method: Both lasers and IPL are used for various non pigmentary conditions including scar modulations, acne and its sequel, rejuvenation etc. Results are presented with matching before and after photographs and parameters used.

Recent Advances in Treatment of Varicose Veins

Prof. Dr. Uddhav Patil MS MCh (Plast. Surg.) MACPhleb (USA)

D. Y. Patil Medical College and Hospital, Kolhapur, INDIA

LakshyaKiran Therapeutic Lasers and Research Institute Pvt. Ltd., Kolhapur, INDIA

Since the advent of endovenous laser and radio frequency procedures, at the turn of the century, varicose vein treatment has undergone paradigm shift. It was un-physiological to remove veins when they were not diseased, but earlier there was no other way. Since certain lasers were able to be carried through optical fibre, they could be taken to internal organs which was not possible earlier. It is interesting to know how the endovenous laser therapy was evolved. In the beginning, the chromophore in veins was thought to be de-oxy haemoglobin and mid infra-red wavelengths e.g. 808 nm, 840 nm, 980 nm and 1064 nm were used. They heated blood and the heat was conducted to vein wall, which is the target. Side effects included ecchymosis, clot formation and its absorption leading to recurrence and occasional vein burst and hematoma. Longer wavelengths amongst above are more absorbed in water and the results were better than the shorter wavelengths and side effects less. So, the thinking about the chromophore shifted from de-oxy haemoglobin to water content in vein wall. Still longer wavelengths like 1320 nm and 1470 nm have still better water absorption and so more effective and in use today. Radiofrequency ablation is done through a catheter over segments of about 6 cm. It delivers RF energy by contact of the probe with the vein wall and a thermostat gives feedback to the system, regulating the temperature. As compared to 650 micron laser fibre, the RF catheter is larger and stiffer to use. None the less results of both laser and RF closure are more or less similar.

Steam under pressure with a high temperature is suddenly released inside the vein through a fine long catheter. The puff of steam passes to a few centimetres from the catheter tip, heating the vein leading to protein coagulation. A French group is active in this mode of endovenous procedure claiming equally comparable results.

MOCA i. e. MechanO Chemical Ablation (ClariVein) and CAC: CyanoAcrylate Closure are the two newer endovenous procedure being put to practice. The long term results of both are awaited.

Multi Modalities Approach for Vagina Tightening and Rejuvenation

Dr. Orawin Vallibhakara

Genito-urinary syndrome of the menopause (GSM) is a common symptoms among the menopausal women, the prevalence is around 50 percent of menopausal women, that effects on sexual health, marriage life and quality of life. The GSM, results from the estrogen deficiency, causes of thinning vaginal epithelium, decreasing vaginal rugae, losing of vaginal acid pH and vaginal floras shifting. The GSM symptoms including vaginal dryness, vaginal irritating, vaginal burning, painful intercourse, atrophic bleeding and recurrent urinary tract infections. For the treatments of GSM, the vaginal estrogen is one of recommendation. However, some women preferred to avoid the hormonal based-therapy, especially in breast cancer risk patients. Thus, the vaginal lubricants and moisturizers become the alternative options, but those are still unpopular in Thai women. The vaginal lasers is the new and interesting treatment modality for GSM. I and my colleges, finished the study of "The Effect of Vaginal Erbium Laser Treatment for the Genitourinary Syndrome of Menopause: A Randomized Controlled Study". And, the preliminary data reveals, the use of vaginal Erbium: YAG laser therapies every four weeks for three times in postmenopausal women with GSM improves vaginal itchiness and lack of lubrication symptoms when compared to placebo.

Evidence for Laser Resection of Lung Metastases from Renal Cell Cancer Combined with Anatomic Resection in the Era of Targeted Therapies

Alexander Kern, MD

Purpose: Despite the introduction of new targeted therapies such as TKI- and mTOR-inhibitors to treat multiple lung metastases of metastasized renal cell cancer (mRCC), complete surgical resection of lung metastases remains the most important prognostic factor. Using laser technique, substantial progress has been made in recent years to improve the rate of complete lung metastasectomy and overall survival. We analyzed the outcome for patients with pulmonary mRCC after aggressive laser metastasectomy with systematic lymph node dissection before and after the introduction of targeted therapies for mRCC.

Material and Methods: Between 1996 and 2015, 272 patients (168 men, 104 women) underwent curative intended pulmonary laser metastasectomy of mRCC combined with anatomic resection. A total of 3451 metastases (range: 1-110) were resected. Kaplan-Meier analysis was performed to assess overall survival in all 272 patients and for sub-groups. Multivariate analysis of prognostic factors was performed using Cox regression models.

Results: 272 patients with a mean of 13 metastases resected (range 1-110/patient) achieved a median survival of 55 months, or 48% 5-year survival respectively. 88% of patients (n = 239) experienced R0 resections and 5-year survivals of 54% and 69 months, respectively. 114 of these patients (48%) with a mean of 11 metastases resected (range 1-84) remained long term disease free with 5-year and 10-year survival of 76% and 60%, respectively.

Complete removed tumour positive lymph nodes did not impair survival ($p = 0.117$), but underestimated involvement represented the main cause of incomplete resections. Administration of targeted therapies either prior to or after lung resection did not significantly prolong survival.

Discussion and Conclusion: Completeness of resection remains the most important prognostic factor following lung metastasectomy. With diode laser resection combined with anatomic resection, high numbers of metastases – even if located centrally – can be removed completely and tissue-saving, allowing repeated resections with good functional results in case of recurrence and thus prolong survival. Further prospective studies are needed to assess the possible role of a combination of systemic targeted therapies and surgical lung metastasectomy.

Minimally Invasive Bipolar Needle RF Device for Skin Rejuvenation

Wichai Hongcharu, MD

Histological and scientific results obtained with a novel fractional needle-based bipolar RF system with temperature feedback on dermal tissue were published in 2009. It was shown that temperature feedback was capable of reaching and maintaining pre-selected dermal target temperatures regardless of dermal conductivity. This allowed physicians to use local infiltration techniques to properly manage discomfort without sacrificing efficacy. Because of its intrinsic consistency in creating fractional zones of partially denatured collagen, results from a prospective 100-patient clinical study showed response rates of 100% and 95% for the treatment of rhytids and laxity. Thermal profiles and volumes of denatured collagen for Profound were simulated under nominal dermal conductivity conditions using the preferred settings of 67°C and 4 sec. The presence of a temperature feedback system, as incorporated in the Profound device, allows the creation of a large volumetric dermal coverage factor regardless of skin conductivity, at a time-temperature dose that has been shown to be optimal for creation of new dermal volume, collagen and elastin. The Profound device has introduced two types of bipolar needle cartridges; dermal cartridge (25 degree angle of insertion) and SubQ cartridge (75 degree angle of insertion). Dermal cartridge was designed for heating up the reticular dermis while SubQ cartridge was designed for heating up fibrous septae in the subcutaneous fat layer.

The retrospective study of patients treated by both types of cartridges has been observed in various conditions such as treatment for skin laxity, wrinkle and double chins in Thai patients.

Plasma RF. for Periorbital Tightening

Dr.Orawan Kitchawengkul

The innovative Plasma RF treatment for periorbital tightening & rejuvenation cases will be presented.

IPL and QS Lasers for Uncommon and Newer Indications

Uddhav Patil MS MCh (Plast. Surg.) MACPhleb (USA)

D. Y. Patil Medical College and Hospital, Kolhapur, INDIA

LakshyaKiran Therapeutic Lasers and Research Institute Pvt. Ltd., Kolhapur, INDIA

Pigmented Lesions can be either congenital or acquired. Treating pigmented lesions in skin of colour i.e. skin types V and VI is like a rope walk due to narrow therapeutic window. There are various classifications of pigmented lesions but for effective laser treatment, the single most important factor is to know at what depth below the skin surface is the pigment located. Depth of the pigment was better judged by a polarised light system, 'Syris'. During the initial years of the learning curve, 'Patch Tests' were performed to find optimal wavelength and parameters for a particular pigmented skin condition. When in doubt we still resort to patch testing without hesitation. As melanin absorbs light at a wide range of wavelengths from 250 nm to 1200 nm, almost any laser with sufficient power causing thermal denaturation can be used to remove benign pigmented lesions of the epidermis. In dermal pigmented lesions, the target chromophore is either intracellular pigment; melanosomes or tattoo particles. To make such sub-micrometer particles absorb photons, the energy delivery needs to be in nanoseconds (TRT) as compared to milliseconds for hair root and microseconds for capillaries. This has been made possible by a technique invented in 1962 called quality switching or Q-switching. In many pigmented lesions however, the melanosomes and melanocytes are clustered so compactly that they act as a larger body of chromophores. In this situation, a melanin specific wavelength even in millisecond domain also leads to lesion clearance. These long pulsed lasers are only suitable to treat nevo-cellular nevi while IPL (500 nm to 1200 nm) treats photo damaged pigmentations like solar lentigines, dyschromia and melasma. Full face skin lightening and rejuvenation for dark complexion, familial or acquired dark lips, smoker's dark lips and tongue and gum pigmentation are some of the newer indications. The desired tissue response with Q-Switched lasers is immediate whitening of treated area without epidermal breakdown or pin point bleeding. Stacking of pulses should be avoided to prevent any textural changes. IPL and Lasers used sequentially also give better results in certain conditions. Post treatment care consists of, avoidance of sun exposure and regular use of sun block creams with high sun protection factor (SPF 40+). Author is using high end IPL systems (VascuLight HR and M22, Lumenis) with variable pulsing and different cut-off filters for last 17 years and world's most powerful 1064 & 532 nm QS laser (Q-Plus B and Q Plus Evo, Quanta System) for last 14 years. He is using these systems and their various wavelengths such as 615 & 645 nm of IPL & both 1064 & 532 of QS lasers either in isolation or in different combinations to achieve good to excellent results.

Above points are well illustrated with exactly matching before and after patient photographs.

Prospective Study of Q-switched Nd: YAG Laser Treatment of Hyperpigmented Split-Thickness Skin Grafts

Warangkana Tonaree, Sasima Eimpunth, Sirichai Kamnerdnakta,
Inneke Jane Hidajat, Apirag Chuangsuwanich

Background: Hyperpigmentation following a split-thickness skin graft procedure is a common problem in Asian skin and can cause suboptimal cosmetic results. A variety of treatments have been attempted, but few have given satisfactory results. Although the Q-switched Nd:YAG 1064 nm laser has been used as a standard treatment for hyperpigmented skin lesions, there are a very limited number of published reports describing the treatment of hyperpigmented skin grafts with that laser. Objectives: This study aimed to evaluate the efficacy of reducing the hyperpigmentation of skin grafts with a Q-switched Nd:YAG 1064 nm laser, compared to untreated skin grafts and normal skin.

Materials and Methods: This was a prospective, case-control, pilot study. Half of the skin graft area on each patient was treated with a Q-switched Nd:YAG 1064 nm laser 4 times, while the other half was left untreated. The treatment results were evaluated by using clinical photographs and assessments of the melanin index and erythema index made at baseline, 1 week after each treatment, and 1 month after the final treatment, with the untreated skin graft area acting as the control site.

Results: 11 skin graft sites from 5 patients were included in this study. After 4 treatments, the mean melanin index of the treated sites decreased significantly compared to baseline ($p = 0.008$) and to the untreated sites ($p = 0.001$). However, there was no significant reduction in the erythema indices of either the treated or the control sites. No complications were observed.

Conclusion: Q-switched Nd:YAG 1064 nm laser treatment is a promising modality to treat hyperpigmented split thickness skin grafts.

Key words: hyperpigmented, skin graft, Q-switched Nd:YAG 1064 nm laser, melanin index

Side Effects and Complication of Laser Treatment, How I Can Do It

L. Longo, M.D.

International Academy for Laser Medicine and Surgery, Institute of Laser Medicine, Firenze, Italy

Background: side effects and complication of laser beams and intense pulse light were described by few Authors and caused by two group of factors: malpractice and/or technical troubles of the instrumentation. Propose: the description of side effects occurred in the treatment of leg veins, hair removal and other aesthetic lesions. The knowledge of their existence and the analysis of their causes could avoid them. How do we must treat them could reduce the problems.

Material and methods: we analyze our personal experience of 40 years of clinical practice with laser. We selected only the patients which obtained negative effects of the treatment. We analyze why this was obtained. We compare similar experiences of other Authors. We searched to establish when the side effects were caused by malpractice or inexperience and when the problem was the instrumentation or the manufacturer which sell that. The treatment of the side effects and complication was proposed.

Results: The majority of the patients with side effects and complication by laser and light treatment was recovered, if they come back to the same medical doctor author of the treatment, rather than another medical doctor. Rarely some side effects was irreversible, as skin de-pigmented lesions or scars deep and large.

Conclusion: laser and light treatment resolved a lot of Aesthetic lesions and it is a valid treatment for many patients. This therapy could give side effects and complication in few patients, if we use affordable instrumentation after specific teaching courses.

Review of Vascular Anastomosis by CO₂ Laser

Masayoshi Okada, Hiroyuki Horii, Kazuta Shimizu

International Institute for Advanced General Medicine

Horii Clinic

Shimizu Clinic

Introduction: Lasers have been widely used in the field of medicine and surgery. However, laser applications are very rare in the field of cardiovascular surgery throughout the world. It has been reported for a long period that it is difficult to keep long-term patency after anastomosis of the conventional fashion with suture materials, especially for small-caliber vessels.

Materials and methods: Adult mongrel dogs were used in this study. The femoral arteries and veins were gently exposed under general anesthesia. From these preliminary experiments, it could be concluded that the optimal laser output was 20-40mW and 6-12sec/mm for vascular anastomosis of small-caliber vessels in the extremities. The focused beam was used and moved very slowly along the anastomotic line. The distance between stay suture was maintained at no more than 5mm. The number of vascular anastomosis reached 75 anastomoses. Bleeding from anastomotic sites was found only 3pontos among them.

Results: On the basis of excellent results with pressure tolerance test, tensile strength test, and histological findings, vascular anastomosis by laser was carried in 111patients (136 anastomotic sites) with angina pectoris, chronic renal failure and peripheral disorders. A44 year female patient was admitted to our Kobe University Hospital, because of hypertension, and uremia following renal failure. A veno-arterial anastomosis at the site of the radial artery was successfully carried out using CO₂ laser hemodialysis on 21 February 1985. This was the first clinical successful case of vascular anastomosis by CO₂ laser in the world.

Conclusion: Laser vascular anastomosis could be easily.

Lasers, Peace & Wartime Applications with Special Emphasis on Military Medicine: A Review

Abraham M. Baruchin MD¹ & Ohad Baruchin MD^{1,2}

1: Laser Clinic, Assuta University Medical Center, Ashdod, Israel

2: Department of Ob/Gyn, AssafHarofeh University Medical Center, Zerifin, Israel

Many scientific, military, medical and commercial laser applications have been developed since the invention of the laser in 1958. The coherency, high monochromaticity, and ability to reach extremely high powers are all properties which allow for these specialized applications.

The military have many uses for laser technology including laser weapon guidance, mine detection, head-up displays (HUD), dazzle (and eye-targeted lasers), target designation and LIDAR to name a few, but the one thing they all have in common are harsh operating conditions in which they are expected to function. In aircraft, strapped to the outside of vehicles and in a wide variety of temperatures. There are also many laser applications which are not specific of military use e.g. in area such as range finders and optical communications etc. In this review, a special emphasis will be put on lasers use in military medicine. As lasers provide some of the most important treatments in modern medicine today and are used more and more to replace instruments of invasive surgery. No doubt one can find them in military medical centers where medical lasers are used in dermatology, surgery, plastic surgery, dentistry, ophthalmic, aesthetics procedures and a host of other medical uses. Therefore, clinical lasers experience of military physicians mirrors that of their civilian counterparts; however, there are applications for lasers in which there is special military relevance. These range from treatment of common conditions such as eye injuries, pilonidal sinus foreign bodies, plantar warts, ingrown toenails, pseudo folliculitis barbae to noninvasive identification of shrapnel injuries on the battlefield using novel laser-based diagnostic techniques. Although some applications in this review maybe, still experimental, emerging technologies should allow for their clinical or field implementation in the near future.

Laser Therapy for Oral Health Promotion in Older People

Sajee Sattayut

Owing to the fact that the world is approaching aging society including Asian Pacific Region. Innovation of oral health promotion is challenging for the oral health care provider in order to maintain oral health without deterioration of general health. Laser therapy is reputed to enhance biomodulation and noninvasive surgery. Based on the action research into primary and tertiary cares in Thailand, the laser therapies providing high clinical benefits for the older people with their satisfaction and be accepted by the health care providers were following:- 1) laser surgery and photodynamic therapy for treating oral potentially malignant disorders and preventing oral cancer 2) laser welding and low intensity laser therapy for promoting recovery of refractory chronic ulceration and burning sensation and 3) photocoagulation for the patients with bleeding disorders undertaken oral surgery and dental treatment without medical disruptions. These laser therapies for oral health promotion in older people were able to maintain general health and quality of life in older people.

Laser Therapy - Different Forms of Application

Komwudth Konchalard

Lasers have been used for many decades in medical fields such as dermatology, cosmetic surgery, ophthalmology, dentistry, cancer treatments and musculoskeletal disorders. The mechanisms of action are based on laser-tissue interaction which can be classified into three categories depending on amount of energy and tissue exposure time, namely photochemical, photo-thermal, and photoionizing.

Usually, laser probes are applied onto the tissue. There are some forms of application which involves using laser fiber inserted into the tissue, which is called interstitial laser. Intravenous laser (or laser blood irradiation) is another form of application using laser fiber inserted through a venous catheter. Another technique, relying on photochemical effects between certain spectrums of light and specific substances known as photosensitizer, is called photodynamic therapy. These three different kinds of application and clinical uses will be discussed in the presentation along with clinical evidences.

Photobiomodulation in Oral Medicine

Elisabetta Merigo

UFR Odontologie - EA 7354 Laboratoire MicOralIS - Université Côte d'Azur - Nice – France

PhotoBiomodulation (PBM) is the laser application based on photochemical mechanism where the light absorbed by intracellular mitochondrial chromophores as endogenous porphyrins and respiratory chain components, mainly cytochrome c oxidase, is able to activate cell metabolism.

PBM, previously also called “Low Level Laser Therapy” (acronym: LLLT), “Biostimulation” or “soft laser” or “cold laser”, is mainly used in medicine thanks to its effect on stimulation of wound healing and its analgesic properties.

In literature is reported a great number of studies showing the advantages of the use of PBM in different oral diseases such Recurrent Aphthous Stomatitis, herpes infections, mucositis and BMS. Different factors may explain the increasing reported use of PBM in oral medicine: absence of side effects, possibility of safely treating compromised patients as oncologic patients, possibility of a noninvasive approach not associated with pain or discomfort and possibility of performing short sessions; self-administered sessions of PBM performed “at home” by the patient himself thanks to the availability of new devices maybe, under the supervision of a doctor, a new solution for the treatment of medical conditions, particularly of chronic.

Role of Laser in Hair Restoration

Rattapon Thuangtong

Dr. Endre Master firstly studied about carcinogenic potential of low-power ruby laser (694nm) on mice in 1960s. He found that laser improved hair growth around the shaved region on the animal's back. After that paradoxical effects of laser hair removal was reported. The first clinical uses of laser in hair restoration is laser comb. The patients must use 3 times a week for at least 6 months for some benefits. Now a day, there are many type of devices such as laser cap and laser band. The mechanisms of improvement hair growth are increase ATP production, modulation of reactive oxygen species, induction of transcription factors such as nuclear factor kappa B, hypoxia-inducible factor-1. The results after using these devices are promising. The side effects are minimal

Laser and Physical Therapy in Treatment of Spinal Cord Injury

D. Longo, PT, MSc, L. Longo, MD, G. Cherubini, PT, Msc, V. Mangé, PT, MSc P. Lippi, PT, MSc,

*Institute Laser Medicine, International Academy Laser Medicine and Surgery
Firenze – Italy
University of Florence- Florence, Italy*

Background: Since 2003 year until today we treated more than 250 patients with Traumatic Spinal Cord Injuries (TSCI), using Non-Surgical Laser Therapy (NSLT) obtaining good results in terms of sensibility and movement. In order to increase muscle strength and to further explore new emerging synergies, we have also started using a physical therapy practice based on the most current knowledge about the motor control, called Grimaldi's Muscle Shortening Maneuver (MSM).

Each case of TSCI is different, there are not two similar injuries in terms of loss of function and response to treatment.

The goal of our studies is to obtain objective datas suggesting the real effectiveness of these two treatments.

Methods: Since 2013, we enrolled groups of patients with TSCI, occurred at least one year before laser treatment and documented by NMR, ESSP, and ESMP. All patients have total and/or subtotal sensory and motor paralysis under the level of lesion. Lasers used were 808 nm, 10600 nm, and 1064 nm, applied with a first cycle of 20 sessions, four a day. Patients were subjected to Grimaldi's Muscle Shortening Maneuver (MSM) twice a day, eight sessions at all, working selectively on certain muscles and limbs. Before treatment under the level of lesion, muscles' activity was tested with EMG system of surface (sEMG). Muscular force at specific joint angles were assessed by some electronic hand-held dynamometers. This type of evaluation was also administered prior to and after each maneuver and at the end of each cycle of laser treatment. Clinical evaluations included tests on tactile and thermal sensitivity under the level of lesion. Every cycle of both treatments was replicated in average each month.

Results: Regarding sensitivity, results were considered positive if it increased at least two dermatomes per cycle under the level of the lesion. Results in muscle activity (on/off) were regarded as positive if sEMG showed modifications. Objective assessment of force displayed encouraging results. Outcomes were tested at every follow up.

Conclusion: Associating laser treatment and Grimaldi's Muscle Shortening Maneuver (MSM) seems to be effective on sensitivity, muscle strength and motor control in patients affected by total or subtotal SCI.

S16: Laser Dentistry II Jubilee Ballroom B Saturday, October 20, 2018 13:00 – 13:20

Integration of Lasers in Clinical Dentistry

Phillip Tsui

The use of dental lasers has become increasingly popular in dental practice. But can we as general practitioner take advantage of lasers to improve clinical procedures? Will lasers help to have stable, predictable, comfortable results? The answer is absolutely YES. Dental lasers will give general practitioners extra dimension to treat patients. Practicing clinical dentistry will become more fun and less stressful by integrating dental lasers. This lecture will provide some suggestions for general practitioners who want to integrate lasers in their daily procedures. Some cases will be showed for the different ways of management in clinical dentistry. The speaker will emphasize how to have the integration in predictable and safe way, both to practitioners and patients.

S16: Laser Dentistry II Jubilee Ballroom B Saturday, October 20, 2018 13:40 – 14:00

Applications of Er;Cr:YSGG and Diode laser in Daily Dental Practice

Chompoonoot Chitrapatima

Laser technology offers many benefits over conventional methods. Precision and hemostatic properties enable clinicians to perform virtually bloodless surgeries, faster healing with much reduced pain and swelling. Antibiotics are not needed in most cases, thus negates the undesirable side-effects of medications. Many procedures can be done without placing sutures which result in less patient's downtime and anxiety. This presentation will demonstrate cases that are encountered on daily practice which well-trained dentists in the field can apply this technology to achieve outstanding result. The combination of Er;Cr:YSGG and Diode laser provides a complete treatment for aesthetic cases. Photobiomodulation or Low-Level-Laser Therapy can be exploited to reduce pain and lead to regression of intraoral lesion in cases such as Systemic Lichen Planus, Aphthous ulcers and ulcer from side effect of chemotherapy. Both laser wavelengths can be used separately or in combination depends on the type of target tissue and the objective that the clinicians aim to achieve.

S17: Aesthetic: Energy- Base Device for facial Lifting Mayfair Ballroom A Saturday, October 20, 2018 14:40 – 15:00

Skin Laxity and Energy-Base Device: Dermatologist Perspective

Dr.Sasima Eimpunth

Skin laxity is a sign of aging that patients seek for the treatment.

Available methods that has been studied or claimed to help improve the skin laxity include skin lifting cream, thread lift, and various energy-based devices. However, facelift surgery is still the gold standard treatment for this concern. There are plenty of energy-based devices that were designed to help tighten or lift the skin. In this session, evidences of energy-based devices for skin tightening and lifting in Thai patients will be discussed.

Differential Depth Parameters of Fractional CO₂ Laser for Acne Pits and Scars in Skin of Colour

Uddhav Patil MS MCh (Plast. Surg.) MACPhleb (USA)

D. Y. Patil Medical College and Hospital, Kolhapur, INDIA

LakshyaKiran Therapeutic Lasers and Research Institute Pvt. Ltd., Kolhapur, INDIA

Collagen modulation and neocollagenesis by fractional CO₂ laser is a well-established treatment modality for various types of scars such as traumatic, post burns, surgical, hypertrophic as well as atrophic scars of acne along with the different types of acne pits. The side effect of post treatment hyper pigmentation which was a common occurrence with continuous beam CO₂ resurfacing has been largely reduced with fractionation of the beam but none the less it does exist, particularly in the skin of colour i.e. skin types IV and V. The majority skin type of Indian population is type V with minority type VI and IV. Also, the severity of acne scars is greater due to socio-economic reasons, tropical climate as well as due to thick oily skin. As such fractional CO₂ treatment needs to be delivered in an average of 6 or more sessions to achieve satisfactory results. Giving higher energy at deeper skin level to achieve early results invariably leads to Post Inflammatory Hyper pigmentation (PIH). Also, we need to remember a fact that in an area say, cheeks, not everywhere collagen induction is required to the same extent. In pits its requirement is maximum, on atrophic scars it is moderate while on normal skin it is minimum. With a long 17 years of experience of using various cosmetic lasers, we have developed a protocol with differential parameters for treating acne scars and pitted areas to achieve maximum benefit with bare minimum side effects.

Laser for Acne and Acne Scars: Choosing The Evidence to Guide Clinical Practice

Nanticha Kamanamool

Energy-based devices have been developed to treat acne. Narrowband light sources, intense pulsed light (IPL), and lasers source such as Pulsed dye laser (PDL), Potassium titanyl phosphate (KTP) laser and Infrared lasers have been studied. From current evidences the efficacy of light and laser interventions for acne treatment is not very strong. Based on acne lesion counts, all of the energy-based modalities demonstrate a greater than 50% reduction in inflammatory lesions except KTP laser. The resolution of inflammatory lesions has been more successful than non-inflammatory lesions. IPL monotherapy for acne is more effective than blue-red LED but less effective compared with PDL. IPL and PDL also effective in improving erythema which is the first step of acne scar treatments. Then treatment should focus on addressing atrophic acne scars. Laser treatments of atrophic acne scars aim to stimulate fibroblasts to replace lost dermal components. Based on physician-assessed mean improvement, ablative CO₂ laser is the most efficacious but limited by long recovery time and adverse events. Ablative fractional lasers offer the best compromise between efficacy and adverse events especially 2940nm Er:YAG laser demonstrated similar mean improvement of acne scars to ablative CO₂ laser. Non-ablative fractional lasers (1540nm Er:glass and 1550nm Er-doped lasers), non-ablative laser (1064nm Nd:YAG, 1320nm Nd:YAG, and 1450nm diode), and the novel 755nm alexandrite picosecond laser have less efficacy compared to traditional ablative lasers and fractional ablative lasers and may be considered in patients with mild degree of acne scars.

A Novel Approach in Photodynamic Therapy: Advances in The Treatment of Onychomycosis

C. Pedrinazzi¹, L. Longo², J. Houang³, A. Lauto³

1: University of Pavia, Seregno, Italy

2: IALMS, International Academy for Laser Medicine and Surgery, Florence, Italy

3: University of Western Sydney, Sydney, Australia

Background: Onychomycosis is a common infection of the finger or toenails, predominantly caused by *Trichophyton Rubrum*. Treatment is complex and requires long courses of systemic and topical antimycotic drugs. The main pitfalls in conventional therapy are high recurrence rate, interaction with other drugs, treatment compliance and toxic side effects.

To date, long pulse Nd-Yag 1064 nm is the only approved laser treatment for human onychomycosis, even if its efficacy is under scrutiny. A recent in vitro study has demonstrated the high efficacy of the photodynamic effect of rose Bengal on spore suspensions of *T. Rubrum*. Rose Bengal was able to induce a fungicidal effect on *T. rubrum* when photosensitized with the fluence of 228 J/cm² by a green laser ($\lambda = 532$ nm).

Purpose: In this study, we describe our experience on selected patients affected by toenails onychomycosis, and treated with this innovative photodynamic protocol.

Materials and Methods: A topical application of a solution of Rose Bengal diluted at 140 μ M was applied for 30 minutes and therefore irradiated with a 532 nm diode laser (Eufoton LASEmaR 500) at 0.5 W for 5 minutes. Treatment was repeated every three weeks. Fungal cultures were tested before starting the protocol and after the last photodynamic session to demonstrate complete clearance of *T. Rubrum*.

Discussion and Conclusion: Fungal clearance, no significant side effects and good compliance were observed in all patients. These outcomes show that the rose bengal treatment is a potential new cure for *T. rubrum* infections.

The Novel Treatment of Post-operative Edema and Ecchymosis in Facial Aesthetic Surgery

WorawatKaewwichian MD¹, ManaSriyudthsak D Eng²,
PoonpissamaiSuwajo MD³

*1: Plastic and Reconstructive Surgery Unit, Department of Surgery, Faculty of Medicine, King
Chulalongkorn Memorial Hospital, Bangkok*

2: Department of Electrical Engineering, Faculty of Engineering, Chulalongkorn University, Bangkok

LED (Light-Emitting Diode) is a source of the non-thermal light therapy. The photobiomodulating property has the cellular effect that is the one of dermatologic treatment. The main developing of this technology was provided by the National Aeronautics and Space Administration (NASA). The result of many studies was the light of a specific wavelength was positive in wound healing result. Posten M. et al reviewed the mechanism and efficacy of the low level laser therapy (LLLT) for wound healing. The effects of LLLT on cell cultures in vitro are increase in cell proliferation and collagen production with the HeNe and GaAs lasers in specific and arbitrary laser setting. In animal models, they had not the effective result on the wound healing in porcine model, which closely skin resemble of human but reported an improvement in surgical wound healing in a rodent model. For human, a few researches in small case series showed a benefit on the superficial wound healing. Trelles MA and Allone I et al reported the effective results of red LED (630 ± 3 nm, an incident power density of 80 mW/cm² and 90 J/cm² over a 20-minutes treatment time) on tissue repair after blepharoplasty and laser ablative resurfacing that can short the time to resolve of side effects and the healing time on the half-face model (one side receiving the LED therapy and the other side as a control). This study was limit in small population and had a confounder of systemic response in this model.

Base on this pilot study, we designed the randomized, controlled trial to prove our hypothesis that LED can improve edema and ecchymosis depends on their properties. The 850 nm LED is specific for mitochondria that can reduce inflammation and enhance tissue repair and the 450 nm LED can affect the heme-product chromophore which can change the unconjugated to conjugated bilirubin providing resolve in hematoma and ecchymosis.

Our study exhibited a statistical significant in resolving the extent of ecchymosis and the severity of edema on day 7 and no difference on day 14 post-operatively. This may be a primary clue in clinical application of the LED in tissue repair and improving the superficial ecchymosis that can be an adjunctive treatment on the result of facial cosmetic procedures.

**Comparative Evaluation of The Efficacy of The Diode Lasers
in Both Contact & Non Contact Mode and 0.1% Triamcinolone Acetonide
Mouth Paste in Treatment of Oral Ulcers
– An In vivo Study**

Upasana Sethi Ahuja

Department of Oral Medicine and Radiology, I.T.S – CDSR, Muradnagar, Ghaziabad, U.P.

Introduction: Ulceration is the breach in the oral epithelium, which typically exposes nerve endings in the underlying lamina propria, resulting in pain and soreness. Oral ulcers are common, with an estimated point prevalence of 4% in the world wide. These ulcers hinder a person's ability to ingest foods, thereby making the person susceptible to malnutrition. Treatment for ulcer is symptomatic; the goals being to decrease pain, healing time, size of the ulcer, and to increase disease-free periods. Ulcers have been traditionally treated pharmacologically with steroids. As corticosteroids are known to get absorbed systemically even on topical application, they can lead to certain adverse reactions like burning, itching, irritation, dryness etc. Recent literature suggests that LLLT also known as "cold laser" works on the principle of biostimulation. This bio modulatory effect plays a pivotal role in accelerating the healing process and provides analgesia. Hence, it constitutes an alternative to processes that alleviate pain and inflammatory reaction and is now widely used in management of diseases that require tissue regeneration. Keeping in mind the anti-inflammatory property of LLLT we did a study to analyze the effectiveness of LLLT in both contact and non-contact mode in relation to pain in ulcer, size and healing time. For this we took a total of 45 patients with ulcers and randomly divided them into 3 equal groups

- Group I undergoing laser therapy (contact mode)
- Group II undergoing laser therapy (non-contact mode)
- Group III undergoing conventional treatment i.e. (0.1% triamcinolone acetonide).

All the patients were examined on day 0, 2, 4, and 6 to check for pain, size of ulcer, healing time, and frequency of recurrence was also assessed in 1 year follow up.

Results: ANOVA followed by Post hoc comparison by BONFERRONI method was done which revealed that LLLT in non-contact mode provided immediate pain relief and significantly reduced healing time with less recurrence.

Conclusion: LLLT in non-contact mode was more effective in relieving pain and reducing the healing time during the treatment of oral ulcers as compared to triamcinolone acetonide and laser in contact mode. Also less recurrence was seen even after 1 year of follow up. Since no medications were required in this group, their side effects and risk of over dosage could also be prevented. Hence, it can be concluded that LLLT in non-contact mode is a safe and clinically effective therapy for treating oral ulcers.

Efficiency of Nd: YAG1064 Laser on split thickness skin graft for prevention hyperpigmentation in long term study: A Randomized control trials

Atthawit Mongkornwong

Background: Hyper-pigmentation and un-soften after split-thickness skin graft procedure is a common problem in Asian skin and can cause distress to the patients. Variety of treatments and prophylaxis have been attempted but none gave a satisfactory result. Nd: YAG 1064 nm laser has been used as a standard treatment for hyper-pigmented skin lesions, but none has reported the prevention and treatment of hyper-pigmented skin graft and improve skin texture with Nd: YAG laser.

Objectives: This study aimed to evaluate the reduction of hyper-pigmentation, erythema and soften on skin grafts treated with Nd:YAG 1064 laser compared to untreated skin grafts and normal skin.

Materials and Methods: This is a prospective randomized controlled trial. Half area of the skin grafts were treated with Nd:YAG 1064 laser for 4 times, and the other half left untreated. Treatment results were evaluated with clinical photograph, assessment of melanin index (MI), erythema index (EI) and Elasticity parameters at baseline, 2 weeks after each treatment and 1 month after the final treatment, with untreated sites as the control.

Results: 10 skin graft sites from 10 patients were included in this study. And separated to two groups. After 4 treatments, most patients had lesion at lower extremities and lesion from burn. The melanin index of the treated sites decreased when compared to the baseline ($p = 0.232$) and to the untreated sites ($p = 0.770$). The elasticity of the treated sites decreased significantly when compared to the baseline ($p = 0.039$) and to the untreated sites ($p = 0.846$). However. The erythema of the treated sites decreased when compared to the baseline ($p = 0.432$) and to the untreated sites ($p = 0.164$), No complications recorded in this study.

Conclusion: This study showed that Nd: YAG 1064 nm laser treatment can be a promising modalities to prevention hyper-pigmented, reduced erythema and soften split thickness skin graft.

Key word: hyper-pigmented, skin graft, Nd: YAG 1064 nm, melanin index, elasticity parameters, erythema index, Prospective Study of Nd:YAG 1064 Laser for the Treatment of Hyper-pigmented Split-Thickness Skin Grafts

Use of Dermoscopy in Optimizing Laser Outcomes

C. Pedrinazzi¹, S. Andreoli²

1: University of Pavia, Italy

2: ASST Vimercate, Italy

Background: Dermoscopy is an essential tool that improves diagnostic accuracy in the evaluation of pigmented skin tumours. The applicability of dermoscopy recently expanded to other indications, such as nonpigmented tumours, inflammatory skin disorders, scalp and hair disorders, nail diseases and cutaneous infestations. The most important criteria to be considered are the morphology and arrangement of pigmented and vascular structures, the scaling patterns, the colors, follicular abnormalities and specific features. Thus, dermoscopy may be regarded as an intermediate step between clinical examination and dermatopathology.

Purpose: The aim of this study is to describe how dermoscopy can help physicians to achieve best results in their daily practice treating with laser several dermatological conditions such as vascular lesions, benign and malignant tumors.

Materials and Methods: Dermoscopy has been used to establish a correct diagnosis and to examine the area to treat before, during and after the laser procedures. Different kind of cutaneous manifestations were treated including vascular lesions like telangiectasia and spider veins of the face, benign lesions such as recurrent genital warts, and malignant and premalignant lesions in difficult areas such as the face or the scalp.

Discussion and Conclusion: Dermoscopy has proved to be a tool of paramount importance in our clinical daily practice. Dermoscopy permitted an extremely accurate diagnosis in most cases and helped us evaluating the target, the margins of the lesions and the interaction of the light with the tissues. This translated into better outcomes with complete clearing of the lesions and sparing of the surrounding tissues.

Lasers in Pediatric Dentistry: From Infants Through Adolescence

M S Saravanakumar

Laser Assisted Pediatric Dentistry is an Evidence Based Dentistry. Laser is effectively and efficiently used in all branches of medicine (ENT, Gynaec, neurovascular, ortho, derma etc.) from 1980. The most invaluable service we can provide to our kids is treating them without shot, pain, whizz, busssszz loud sounds and vibrations. According to AAPD guidelines 2013 the use of laser technology for various oral and dental procedures have demonstrated a shorter operative working time, the ability to control bleeding quickly, reduced pain and discomfort, fewer postoperative complications (e.g., pain, swelling, infection), and no need for suture removal, as well as increasing patient acceptance. These procedures require skilled technique and patient management. Laser received FDA approval (1997) for use in adults and children. This presentation is to educate about the basic science and laser tissue interaction and explain the use of lasers in various procedures of pediatric dentistry.

Lasers in Tongue Tie Management – Breast Feeding to Speech

M S Saravanakumar

Tethered oral tissues are abnormal tissues of the tongue, lips, and cheeks. They are frequently referred to as frenula. Tongue is an organ-not only attached to rest facial planes directly or indirectly, but it also has attachment on the hyoid bone, mandible, temporal bones and other structures in the head. Structurally it can affect the digestive tract and respiratory tract. It has innervation from cranial nervestrigeminal, facial, glossopharyngeal, vagus and hypoglossal. ONE in TEN babies is born with a tongue tie that affects their ability to BREASTFEED.

Symptoms of Infant tongue-tie includes baby fails to latch on to bare breast, shallow latch, baby constantly slips off the breast, baby makes clicking noises when sucking, and baby gasps for air mid feed. An effect on the breast includes nipple pain that is not improved after help with positioning and attachment, blisters on your nipples, mastitis, blocked ducts and/or incomplete emptying of the breast.

Effects on the baby includes weight loss in early days may be greater than expected, be fussy or unsatisfied, be anxious when feeding, have reflux or be on meds and have colic. When considering revision, the parent needs to consider the types of procedures used for revision. Snipping the tongue, this method has a long history and was recorded as being used by midwives to free the tongue of neonates with feeding difficulties as far back as 1697. Results were described as: improving breastfeeding immediately – 57% and feeding better by 24 hours – 80%. Revision using lasers is relatively new and suitable option for neonates No general anaesthetic is used, but an analgesic gel might be applied. The procedure is very quick, taking only 2 to 3 minutes to perform; there is virtually no bleeding, no pain, no risk of infection and better healing. Babies can be breastfed immediately after the procedure.

better healing. Babies can be breastfed immediately after the procedure.