The Emergence of Lasers in Dermatology

UCLA Dermatology is at the forefront of laser technology as it continues to evolve

It’s been more than 20 years since Dr. Gary P. Lask, Clinical Professor and the Director of Dermatologic Surgery Training Program at UCLA Dermatology, first headed one of eight investigation sites at Jefferson Medical College for the original pulsed dye laser, a now common device used to treat vascular birthmarks such as port-wine stains and hemangiomas, skin redness due to rosacea, as well as scars or stretch marks that result from broken blood vessels.

“It was probably the initial breakthrough in lasers within dermatology,” Dr. Lask

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Dear Friends,

As we start the new academic year and welcome new residents, fellows, trainees and faculty into UCLA Dermatology, we look forward to continue to face challenges, particularly in regard to the budget cuts, and enhance our programs in research, education, and clinical service.

On the research front, Dr. Roger Lo, Associate Professor in Residence and Director of UCLA’s melanoma clinic, was honored with an award for Outstanding Achievement in Cancer Research by the American Association for Cancer Research (AACR). My lab recently published our work in the journal Science demonstrating that certain cancer-bacteria can pretend to be viruses when infecting humans, allowing them to hijack the body’s immune response so that they can hide out, unchallenged, inside our cells. We are continuing to investigate how bacteria can manipulate the immune system in human infections. Dr. Jenny Kim’s laboratory continues to study skin immunity and defense mechanisms to advance applied sciences in dermatology. Her lab’s work on the effects of gene regulation in acne and the potential role of retinoids and vitamin D play in this regulation will be published in the Journal of Investigative Dermatology.

On the clinical front, we continue to seek new ways to improve our ability to provide and deliver care to our patients. We have expanded our Westwood clinical location featuring the latest in laser technology in our new office located at 100 Medical Plaza. Our Acne Rosacea and Aesthetics (CARA) clinic, directed by Dr. Christina Kim and Dr. Jenny Kim, continue to seek new ways to offer therapies that can improve skin while reducing side effects. We continue to expand our clinical practice and adding new faculty clinical educators.

Our education program remains one of the very top in the country. We had Dr. Kevin Cooper, an internationally recognized dermatologist, author and professor, as our awardee of the 2013 Victor D. Newcomer Lectureship. Established in 1988, the Victor D. Newcomer Lectureship brings renowned leaders in Dermatology to share their knowledge and research and enhance the division’s education and research mission. Our residents and faculty hosted the Los Angeles Metroderm in May and presented community dermatologists and trainees with interesting cases and interactive discussions. We are proud of our graduating class of 2013. Dr. Trenton Cutsis and Dr. Cameron Chestnut will begin their training in Procedural Dermatology Fellowship Program in UC Davis or UCLA respectively. Dr. Philip Scumpia will begin Dermatopathology Fellowship at UCLA. Dr. Nima Ghavri will start his career as dermatology practitioner in Southern California.

I remain inspired by the enthusiasm, intellectual curiosity, and diversity of our trainees, faculty, patients, and community and renew my commitment to the continual excellence of UCLA Dermatology’s ongoing research, excellent clinical care, and outstanding quality education.

Robert L. Modlin, MD

Robert L. Modlin, MD
Klein Professor of Dermatology, Distinguished Professor of Medicine and Microbiology, Immunology and Molecular Genetics, Chief, Division of Dermatology; Vice Chair for Cutaneous Medicine and Dermatological Research, Department of Medicine

Lasers in Cosmetic Dermatology

(Continued from cover)

Both the Fraxel laser and Q-switched laser are used at UCLA dermatology clinics, among other state-of-the-art lasers. Patrick Lee, MD, Clinical Professor and Director of the Dermatologic Surgery Residency Education, sees first hand how lasers have changed cosmetic dermatology since the nineties. “Lasers have evolved to very high technology where a lot of the error and risk have actually been compensated for with technology that’s safe for the most part,” he explains. “We’ve been able to treat cosmetic conditions for the past 20 years that we couldn’t do before without causing scarring. In terms of the ability for us to offer good cosmetic outcomes for patients conservatively without a lot of down time, I think lasers have revolutionized the ability for us to do it safely.”

In the area of tattoo removal, Dr. Lee says the brand new PicoSure is a prime example. PicoSure allows for more selective targeting and cuts exposure time significantly compared to older lasers. It may be able to improve treatment for other pigmented conditions, as well but those possibilities are still under investigation.

As of this summer, UCLA is one of two dermatological centers in Los Angeles that utilize a PicoSure laser. “It’s a hot off the press type of laser. It’s the most cutting edge technology for treating tattoos,” Dr. Lee adds.

Laser technology in dermatology continues to evolve with exciting prospects in the works. Dr. Lask predicts the emergence of better devices for safer and simpler skin rejuvenation and tattoo removal among other advances. “We’re evolving in a big way,” he says. “The next step in all these areas is more efficacy, less treatment sessions and, even though we have a high safety profile now—which is wonderful—our goal is to obtain an even higher safety profile.”

For Dr. Lee, the “holy grail” of laser technology lies in a more effective and predictable treatment of fat. “All we can tell patients is that we’re working on it.”
Technology Offers New Alternatives to Acne Treatment

Until recent years, the medical standard for treating acne—the most common skin disorder in America—was isotretinoin, a potent prescription drug with serious side effects, otherwise known as Accutane. Today, cutting edge technology is giving dermatologists less abrasive alternatives to systemic acne therapies. UCLA’s Center for Acne Rosacea and Aesthetics (CARA) is embracing that gift.

CARA now offers device-based therapies that can treat acne with fewer side effects than isotretinoin. Photodynamic therapy (PDT), a mobile device application that helps patients communicate with dermatologists and manage acne via text messaging, is currently under development. Photodynamic therapy (PDT), in conjunction with a blue light source to shrink oil glands, uses levulinic acid, a photosensitizing drug, in conjunction with a blue light source to shrink oil glands. The clinician also utilizes a fractionated laser, which is a resurfacing laser to treat acne scars in addition to other common skin conditions such as wrinkles, blotchiness and pigmentation.

Health Sciences Assistant Clinical Professor Christina Kim MD, who also serves as co-director of CARA, understands that while these light based therapies are not necessarily more effective than isotretinoin, they provide a welcomed alternative for patients who want less abrasive alternatives to systemic acne therapies that they don’t have the same side effects. “I see many patients paying out of pocket for light based acne treatments,” says Dr. Kim, who sees most patients paying out of pocket for light based acne treatments. “These are not considered standard of care because it’s still very new technology, so insurance does not pay for it for the most part.”

Still, acne patients at UCLA are welcoming the new treatment options in addition to more conventional treatments that are available. For many, CARA is one of the few places that offer both medical and cosmetic approaches to acne care and rosacea by utilizing cutting edge technology and resources in a world renowned tertiary care center. Dermatologists are also able to work with other specialists through the UCLA medical network such as nutritionists, pediatricians, endocrinologists and plastic surgeons to ensure individualized treatments suited for every patient’s age and lifestyle.

The CARA team is also committed to its own clinical and research initiatives. The team is currently researching, through clinical trials, the effect of omega-3 on acne and acne therapy, as well as looking at Vitamin D as a topical treatment for acne. They are also developing a mobile device application that helps patients communicate with dermatologists and manage acne via text messaging. The program will increase access to care and limit the need for in-person office visits. For more information on the division’s acne initiatives and care, as well as how to participate in CARA’s clinical trials, please visit www.derm.med.ucla.edu or call (310) 825-6911.

New Cosmetic Facility Unveiled in Westwood

In March, UCLA’s Division of Dermatology unveiled the latest addition to its ongoing expansion—a brand new, 8,000-square-foot cosmetic dermatology facility. Located in Suite 216 at 100 Medical Plaza, the fully functional facility features state-of-the-art technology and specialized patient care for a wide range of cosmetic dermatological procedures including Botox, chemical peels, cosmetic fillers, photofacial and light-source rejuvenation, microdermabrasion and sclerotherapy.

The new Westwood facility also features the latest in laser technology for hair or tattoo removal and resurfacing. Among the state of-the-art technology on site, patients will have access to PicSure, the first and only aesthetic picosecond laser used for the safe and effective removal of tattoos and benign pigmented lesions. PicSure delivers ultra-short bursts of energy to the skin in trillionths of a second, which results in more effective and less frequent treatment. A picosecond pulse is 100 times shorter than nanosecond technology, which most lasers utilize. UCLA’s Division of Dermatology is one of only two clinics in the LA area that offer the recently FDA-approved laser.

For Jenny Kim, MD, PhD, associate director of cosmetic dermatology, the new clinic is providing what many people need in external health just as much as what they need for internal health. “Skin is an incredibly important organ,” says Dr. Kim. “I don’t think people realize how important it is to maintain your outer health in addition to your inner health. For the older population, how you look and how you feel about yourself is a very important part of being healthy. And for younger people, having something like acne that’s appearance related affects them so much. It’s really satisfying for us to provide these treatments.”

Currently, UCLA’s Division of Dermatology offers three other UCLA cosmetic dermatology locations in Santa Monica, Westlake Village and Thousand Oaks. For more information on UCLA’s cosmetic dermatology, please visit www.derm.med.ucla.edu.
Annual Basic Science Symposium Showcases Current Research

On May 21, UCLA’s Division of Dermatology hosted its annual Basic Science Symposium at the California NanoSystems Institute Auditorium. Scholars, residents and distinguished guests heard presentations by seven researchers from the Division of Dermatology. Presentations that highlighted the division’s work on the cutaneous oncology and immunology front included:

Mattia Pellegrini Laboratory
Megan Inklees presented “Molecular classification and insights into diagnosis and pathogenesis of diseases of the skin: A microarray meta-analysis.”

Tatiana Segura Laboratory
Donald Griffin, PhD presented “Phototoxic-active-enzymatic hybrid platform for patterning bioactive signals in hydrogels.”

Jenny Kim Laboratory
Lisa Hisaw presented “The Innate Immune Response of Sebocytes against P. acnes”

Stephen Smale Laboratory
Phil Scumpia, MD, PhD presented “Modulation of inflammation by stress signaling”

Anton Ribas Laboratory
Deborah Wang, MD, PhD presented “High Antitumor Activity of the ERK inhibitor SCH772984 for BRAF-, NRAS- and wild-type melanoma cell lines”

David Baltimore Laboratory
Rajan Kulkarni, MD, PhD presented “Quantifying Gene Expression and Networks in Melanoma”

Roger Lo Laboratory
Hugo Wyl, PhD presented “Landscape of resistance mechanisms toward BRAF targeted therapy: tumor heterogeneity and genomic evolution”

For the latest on the division’s research initiatives, visit “Research” at derm.med.ucla.edu.

AAcR Honors Dr. Roger Lo with Outstanding Achievement Award

Roger S. Lo, MD, PhD, assistant professor in residence and the director of UCLA’s melanoma clinic, was honored with an award for Outstanding Achievement in Cancer Research by the American Association for Cancer Research (AAcR). Presented to one recipient annually, the award recognizes investigators younger than 40 years old with exceptional contributions and achievements within the field of cancer research. Dr. Lo accepted the award at this year’s 33rd annual AAcR Annual Meeting on April 9 in Washington, DC, where he also presented his research in a lecture entitled, “How Melanoma Escapes from BRAF Inhibition.”

A selection committee made up of internationally renowned cancer research leaders selected Dr. Lo from a pool of candidates for his groundbreaking research in the field of melanoma research, particularly how cancers escape from molecularly targeted therapies known as BRAF inhibitors.

Award candidates are nominated by their peers then selected by the committee prior to a final sanction by the AAcR’s Executive Committee.

“We are very fortunate to have Roger as a colleague in the Jonsson Comprehensive Cancer Center (JCCC),” said Judith Gasson, PhD, director of the JCCC and senior associate dean for research. “He is most deserving of this recognition.”

Melanoma—the leading cause of skin cancer deaths—will kill nearly 9,500 Americans this year according to the American Cancer Society; 76,690 new melanomas will be diagnosed in the United States. Dr. Lo’s research into how BRAF-mutant melanomas, which account for more than half of all melanoma cases, adapt to BRAF inhibition, has accelerated the clinical development of treatments. There is also hope that these findings will lead to a better understanding of other cancers.

“I am extremely honored to be recognized by the AAcR and by this particular award, especially given the notable figures in cancer research who have previously received this award,” said Dr. Lo. “I accept it on behalf of my research team at UCLA and my collaborators and mentors. The support I have received from my family and wife has been absolutely critical. This award also acknowledges the sacrifices made by cancer patients in the search for greater knowledge.”

The AAcR is the world’s oldest and largest professional organization dedicated to the advancement of cancer research to prevent and cure cancer. Its membership includes more than 34,000 laboratory, translational and clinical researchers; population scientists; other health care professionals; and cancer advocates in more than 90 countries.

In addition to being honored by the AAcR, Dr. Lo’s research has been featured in prominent publications such as the New York Times and recognized by numerous medical organizations globally. In 2011, Dr. Lo became one of 13 distinguished young doctors nationwide who was awarded an Innovative Research Grant by Stand Up To Cancer (SU2C), a charitable organization established by media, entertainment and philanthropic leaders, including news anchor Katie Couric, to raise significant funds for translational cancer research.

We would like to recognize and thank our generous donors for giving to our Futures Fund.

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Contributions to the UCLA Division of Dermatology will:

- Provide outstanding individualized diagnosis and treatment of skin disease.
- Educate the next generation of physicians and scientists to become leaders in medical dermatology, cosmetic dermatology, dermatologic surgery, dermatopathology and investigative dermatology.
- Develop new and better strategies to diagnose and treat skin disease through innovative research.

You can make a gift to the Division by logging on to derm.med.ucla.edu

Please call (310) 794-4746 if you have questions about making a gift to the UCLA Division of Dermatology.