

Department of Dermatology Grand Rounds

Telomeres and Skin Aging: From Conceptual Framework to Molecular Mechanisms

- Aging and photoaging are consequences of Nature's safeguarding the genome. Cancer is the failure of this safeguard mechanism.
- Telomeres cap chromosomes and shorten with each round of cell division. They serve as the "biologic clock," preventing further cell division after reaching a critical short length.
- Telomeres are strongly implicated in human aging and in mice telomere manipulation can accelerate or retard aging and greatly influence lifespan.
- Telomere disruption causes DNA damage signaling through p53. Extensive research supports the concept that telomere signaling acts first to reduce DNA, slow senescence, and protect the genome. However, if signaling persists, cells are pushed to apoptosis or senescence.



Barbara A. Gilchrest, M.D., received her undergraduate and medical training from the Massachusetts Institute of Technology (MIT) and Harvard Medical School (HMS) respectively. In 1977 Dr. Gilchrest joined the Department of Dermatology and Division on Aging at the HMS, where she established a tissue culture laboratory to study the aging process in human skin, with support from the National Institute on Aging (NIA). From 1985 until 2008, Dr. Gilchrest served as Professor and Chairman of Dermatology at the Boston University School of Medicine, where she directed a large laboratory and an NIH-sponsored post-doctoral research training program. She remains as Professor on a part-time basis while serving as Editor-in-Chief for the *Journal of Investigative Dermatology* and attempting to commercialize treatment concepts arising from her laboratory-based research effort. Dr. Gilchrest is the author of over 400 scholarly articles, reviews, abstracts, and textbook chapters; and author or editor of eight books. She has served in leadership positions for all the major dermatologic organizations, as associate editor or editorial board member of several major clinical and research journals, among other prestigious memberships.

Barbara Gilchrest, MD

Professor and Chair Emeritus
Department of Dermatology
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Wednesday, October 23, 2013

Beckman Laser Institute

Conference Center and Research Library

8 to 8:45 a.m.—Patient Observation

8:45 to 10 a.m.—Discussion

10:15 to 11:15 a.m.—Lecture

Activities approved for *AMA PRA Category 1 Credit(s)*[™].

Target Audience: The target audience for the Department of Dermatology Grand Rounds is attending physicians, fellows, community physicians and other health care professionals.

Statement of Purpose: The format will include lectures detailing diagnosis, management and therapeutic interventions for selected dermatologic topics, and occasional case presentations with review of interesting cases. Clinical test results and radiographic findings will also be included. Current landmark research findings will be discussed.

Accreditation statement: The University of California, Irvine School of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Dermatologic Grand Rounds Global Objectives

- Summarize core competencies in Dermatology as identified by the Accreditation Council for Graduate Medical Education.
- Assessment and management of complex skin diseases including but not limited to cancer.
- Cite current research findings in the field of dermatology and dermatopathology.
- Discuss key issues in the delivery of dermatologic care to a wide range of therapeutic modalities and combination therapy to increase efficacy and minimize side effect profiles.

Designation statement: The University of California, Irvine School of Medicine designates this live activity for a maximum of 3 *AMA PRA Category 1 Credits*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Disclosure: Lecturer: Dr. Gilchrest has disclosed no affiliations, arrangements or financial agreements that could be a potential conflict of interest with this presentation. This lecturer has further disclosed that this lecture will not include discussion of unlabelled,

unapproved drugs or devices.

Course Director/Planners: Francis Dann, MD and Christopher B. Zachary, FRCP, have disclosed that, as course director and planners they have no affiliations, arrangements or financial agreements, which could be perceived as a potential conflict of interest. Kristen Kelly, MD, has disclosed that, as a course planner, she receives research grant support from Graceway Pharmaceuticals and Candela Corporation, and that she provides research support for Light Sciences Oncology and Nitto Denko, which could be perceived as a potential conflict of interest in the planning of this course. Kristen Kelly, MD, has disclosed that based on her potential conflict of interest, to the best of her ability, she will ensure that any speakers or content she suggests are free from commercial bias. She will also excuse herself from planning activity content in which she has a conflict of interest. Judy Hobert has also disclosed that, as an administrative staff, she has no affiliations, arrangements or financial agreements, which could be perceived as a potential conflict of interest.

ADA Statement: In compliance with the Americans with Disabilities Act, contact us three days in advance about special needs for any attendee. Contact Judy Hobert at jhobert@uci.edu or 949-824-4405. This activity is in compliance with **California Assembly Bill 1195** which requires continuing medical education activities with patient care components to include curriculum in the subjects of cultural and linguistic competency. For specific information regarding Bill 1195 and definitions of cultural and linguistic competency, please visit the CME web site at www.cme.uci.edu.