Approved by the Regents
May 14, 2009

PROMOTION RECOMMENDATION
UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF OPHTHALMOLOGY AND VISUAL SCIENCES

Susan G. Elner, M.D., associate professor of ophthalmology and visual sciences, with tenure, Department of Ophthalmology and Visual Sciences, Medical School, is recommended for promotion to professor of ophthalmology and visual sciences, with tenure, Department of Ophthalmology and Visual Sciences, Medical School.

Academic Degrees:

M.D.	1982	University of Chicago
B.S.	1978	University of Illinois at Chicago

Professional Record:

1995-present	Associate Professor of Ophthalmology and Visual Sciences, University of Michigan
1988-1995	Assistant Professor of Ophthalmology, University of Michigan

Summary of Evaluation:

Teaching: Dr. Elner engages in teaching activities daily in the clinic and in the operating room. Residents and fellows work with her during the day, in the evenings after clinics are over, and during emergencies. She regularly presents instructional cases at Grand Rounds, in addition to giving lectures and participating in conferences in her department and other departments at the University. She actively mentors retina fellows each year, as well as residents and medical students who wish to pursue clinical or laboratory studies. These research activities have often yielded authorships on published papers for the trainees. Within the Department of Ophthalmology and Visual Sciences, Dr. Elner is a reliably adept and organized speaker at the CME programs presented for practitioners in the community and around the state, as well as those held to train allied health professionals.

Research: Dr. Elner is an established researcher in the area of ocular cytokines and cell adhesion molecules. Her studies address ocular inflammation and neovascularization, processes that underlie many blinding eye diseases such as uveitis, diabetic retinopathy, and macular degeneration; disease entities that are common among her patients. The mechanisms that promote and inhibit neovascularization are particularly important, considering the sharply rising incidence of diabetes within the population. As cytokines have been identified as possible angiogenic agents within the eyes, Dr. Elner's research can bring us a step closer to targeted therapies for diabetic retinopathy. Interleukin-8, in particular, is promising in that it may be pro-angiogenic as well as a factor necessary for the activity of other well recognized angiogenic cytokines, including vascular endothelial growth factor and fibroblast growth factor. Because

she is also an active participant in multiple clinical trials, Dr. Elner is in a unique position of having a clear intellectual grasp of the links between what goes on in the laboratory and what goes on in the clinic.

Noteworthy is her election to the American Ophthalmological Society, which is a limited membership organization based on a stringent nomination process followed by a rigorous review of a publishable scientific thesis. Dr. Elner was one of only six ophthalmologists who were elected to this society in 2002.

Recent and Significant Publications:

Aizman A, Johnson MW, Elner SG: Treatment of acute retinal necrosis syndrome with oral antiviral medications. *Ophthalmology* 114:307-312, 2007.

Elner SG, Petty HR, Elner VM, Yoshida A, Bian ZM, Yang D, Kindzelskii A: TLR4 mediates human retinal pigment epithelial endotoxin binding and cytokine expression. *Investigative Ophthalmology and Visual Science* 46:4627-4633, 2005.

Elner SG, Elner VM, Kindzelskii AL, Horino K, Davis HR, Todd RF, Glagov S, Petty HR: Human RPE cell lysis of extracellular matrix: functional urokinase plasminogen activator receptor (uPAR), collagenase, and elastase. *Experimental Eye Research* 76:585-595, 2003.

Elner SG, Yoshida A, Bian ZM, Kindzelskii AL, Petty HR, Elner VM: Human RPE cell apoptosis induced by activated monocytes is mediated by caspase-3 activation. *Transactions of the American Ophthalmological Society* 101:43-57, 2003.

Elner SG, Strieter R, Bian ZM, Kunkel S, Mokhtarzaden L, Johnson M, Lukacs N, Elner VM: Interferon-induced protein 10 and interleukin-8. C-X-C chemokines present in proliferative diabetic retinopathy. *Archives of Ophthalmology* 116:1597-1601, 1998.

Service: Clinically, Dr. Elner maintains a comprehensive vitreoretinal medical and surgery practice, and directs the Uveitis Service (which she was asked to create formally in 1994). She is well respected by the many ophthalmologists (including retina subspecialists) who refer their patients to her. Dr. Elner has served on a number of departmental committees and is a frequent reviewer for the major clinical and research ophthalmologic journals. She is sought after as a collaborator on clinical trials dealing with new treatments for retinal diseases.

External Review:

Reviewer A: "She is therefore rather unique in her ability to bridge both clinical and scientific research and to combine two professional activities very successfully. She shows unusual diversity in her skills and her academic achievements."

Reviewer B: "I thought that this paper was novel and ground-breaking in a very important area. The TLRs have been known in biology only for about 10 years and their functions in mediating

the cell's response to noxious agents such as bacteria is only now coming to be recognized. Of the little work that has been done on these receptors in the eye, nearly all has involved the cornea...The importance of the TLRs in the retinal pigment epithelium is of potentially great importance, and this particular paper represents a truly new development in vision research."

Reviewer C: "...Dr. Elner is a well respected specialist in retinal diseases and especially in translational studies....I think that Dr. Elner has been a consistent and important contributor to our knowledge of ocular disease and specifically retinal diseases."

Reviewer D: "Her contributions to the field of ophthalmology are numerous and her ground breaking publications on Retinal pigment Epithelium in modulation of inflammatory cytokines and TLR4 expression have been seminal in advancing the field of ocular inflammation....Dr. Elner stands way above her peers not only in clinical/surgical ophthalmic arena but in translational research. Her meticulous work on clinical trials has been well recognized nationally and she [is] tops in clinical research."

Reviewer E: "Much of her research focuses on the microscopic reasons for retinal pathology. This is far beyond what most clinicians attempt to investigate. She has published absolutely outstanding papers on Interferon induced protein 10 and Interleukin 8, the integrin super family in the eye, and various functions of the human RPE cells. These are difficult subjects and represent the excellence of her research."

Summary of Recommendation:

Dr. Elner is an exceptional clinician–scientist in a subspecialty field where clinician–scientists are rare. Her clinical work focuses on medical and surgical treatment of retinal diseases. In addition, she directs the Uveitis Service. Her research into cytokines, chemokines, and angiogenesis shows creativity, discipline, and a tenacity that guarantees results. Dr. Susan Elner is also an enthusiastic and well respected teacher and a physician who is held in warm and high regard by her patients. With utmost enthusiasm I endorse her promotion to professor of ophthalmology and visual sciences.

James O. Woolliscroft, M.D.
Dean
Lyle C. Roll Professor of Medicine

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