



DECADE OF VISION
an initiative of the **2010-2020**
Alliance For Eye And Vision Research

ALLIANCE FOR EYE AND VISION RESEARCH

In conjunction with:

Research to Prevent Blindness (RPB)

National Keratoconus Foundation (NKCF)

Assoc. for Research in Vision and Ophthalmology (ARVO)

Eye Bank Association of America (EBAA)

*Invites you to a First-Ever Luncheon Briefing
Recognizing National Keratoconus Day 2017 (Nov. 10)*

***Spearheading Keratoconus Research:
A Quest for Novel Treatments***

Tuesday, November 7, 2017

12 Noon - 1:15 pm

House Rayburn 2075

Featured Speakers:

Researcher Dimitrios Karamichos, PhD

(Dean McGee Eye Institute/University of Oklahoma)

And

Patient Advocate Rachel Dungan

With a Welcome by National Keratoconus Foundation

Executive Director Mary Prudden, JD

R.S.V.P. to Dina Beaumont @ 202-407-8325 or dinabeau@aol.com

AEVR, a 501(c)3 Non-Profit Educational Foundation, is pleased to host this widely attended event featuring an Eye Healthy luncheon.

Spearheading Keratoconus Research: A Quest for Novel Treatments

November 7, 2017 12:00 Noon – 1:15 pm, House Rayburn 2075

RSVP to: 202-407-8325 or dinabeau@aol.com

What is the Cornea and How is it Affected by Keratoconus?

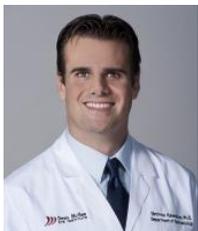
The cornea is the clear front window of the eye responsible for refracting light entering the eye. Abnormalities of the cornea can severely affect the way we see the world, making simple tasks difficult. Keratoconus (KC) is an eye condition in which the normally round, clear, dome-shaped cornea progressively thins, causing a cone-like bulge to develop. This results in blurring and distortion of vision and increased sensitivity to light. The prevalence of KC has traditionally been reported as 1 in 2000 individuals, based on a study performed several decades ago. Subsequent technological advancements have substantially increased the number of individuals diagnosed and treated for KC. In 2016, a population study of 4 million Europeans found the incidence to be 1 in 375 individuals. Extrapolating this number to the current U.S. population, KC has the potential to negatively impact the lives of 867,000 Americans. Although the exact cause of KC remains unknown, scientists generally agree that some environmental influence triggers it in someone who has a genetic predisposition for the disease. While one eye may have more severe vision distortion than the other, KC is considered a bilateral condition, meaning both eyes are affected. KC affects both sexes, and most commonly the symptoms are first experienced during the teenage years and then progress (that is, get worse) before stabilizing in middle age.

How can Keratoconus be treated?

In the early stages of KC, eyeglasses or soft contact lenses may be used to correct mild nearsightedness or astigmatism. As the disorder progresses and the cornea continues to thin and become distorted, rigid gas permeable (RGP) contacts or scleral lenses are generally prescribed to correct vision more adequately. The lenses must be carefully fitted and frequent checkups and lens changes may be needed to achieve and maintain good vision. In the most severe cases, a corneal transplant may be needed if useful vision and comfort cannot be achieved by other means. A variety of surgical procedures have been developed to replace the KC-damaged cornea with healthy donor corneal tissue. Many advances in eye banking and transplant techniques have been supported by the National Eye Institute (NEI) within the National Institutes of Health (NIH). Research funded in part by NEI has helped to develop the latest advance in treatment of KC. Corneal crosslinking, which received Food and Drug Administration (FDA) approval in April 2016, is a minimally invasive procedure that involves applying liquid riboflavin (Vitamin B2) eye drops, followed by a controlled application of ultraviolet light to strengthen the corneal collagen. This procedure is now recommended for newly diagnosed patients as a method to halt or slow disease progression. Researcher Dr. Dimitrios Karamichos will discuss the latest research discoveries that are directed towards the development of novel, non-invasive, and tailor-made treatments depending on the patient status and keratoconus severity.

About the Speakers.....

Dimitrios Karamichos, PhD is an Associate Professor of Ophthalmology and Cell Biology at the Dean McGee Eye Institute at the University of Oklahoma. His research is focused on the mechanisms and therapeutic strategies for corneal trauma, disorders, and dystrophies. By utilizing human samples, in vitro, and in vivo models, the long-term objective is to develop therapeutic agents/drugs that can prevent or restore vision loss. More specifically, he is working on corneal fibrosis following trauma or surgery, keratoconus, and corneal diabetes. Both keratoconus and corneal diabetes are challenging ocular diseases. The etiology of keratoconus is still unknown with several factors and understanding of genetic, molecular, and environmental factors remains incomplete. In recent studies, Dr. Karamichos identified a new biomarker for keratoconus that is present both in vivo and in vitro. Gross cystic disease fluid protein-15 (GCDFFP-15) is the new biomarker and a strong candidate for the development and progression of keratoconus. This is a major breakthrough given that the cause for keratoconus onset is unknown.



Rachel Dungan, a KC patient based in Washington D.C., works to promote meaningful and effective patient/public engagement in health research and policy decision-making. Since winning the inaugural National Keratoconus Foundation Short Film Festival, Rachel has served as an active patient advocate and has spoken at conferences hosted by the Association for Research in Vision and Ophthalmology and the UC Davis Eye Research Institute.

AEVR, a 501(c)3 non-profit foundation, is hosting this widely attended event.