

Northwestern Vision Seminar Series

Feinberg School of Medicine and McCormick School of Engineering and Applied Sciences
Are Honored to Announce

Mary Elizabeth Hartnett, MD

Professor of Ophthalmology, Vitreoretinal Service and Surgery
Principal Investigator, Retinal Angiogenesis Laboratory
Director of Pediatric Retina, Adjunct Professor of Pediatrics
Co-Director MD-PhD Program
University of Utah, Moran Eye Center

Mary Elizabeth Hartnett, MD, is Principal Investigator of an NIH-funded laboratory that studies mechanisms of normal and aberrant angiogenesis, particularly related to diabetic retinopathy, retinopathy of prematurity and age-related macular degeneration. The mission of the laboratory is to understand what causes blood vessels to grow outside their normal tissue compartments and into other areas of the eye where they cause damage. Rather than inhibit or destroy abnormal vessels, the goal is to understand what stimulates endothelial cells of blood vessels to become activated to migrate and proliferate aberrantly, and once this is known, to then restore or contain blood vessel support to normal ocular compartments.

Dr. Hartnett and her team of researchers are investigating multiple causes of aberrant angiogenesis. One is retinal avascularity, or a lack of blood vessel support in areas of the inner retina that leads to retinal hypoxia, which stimulates aberrant growth of blood vessels. One important observation the Hartnett lab made was that overactivation of the signaling pathway of vascular endothelial growth factor (VEGF) actually contributes to retinal avascularity by disordering the growth of endothelial cells, causing them to grow into the gel of the eye (vitreous) rather than normally into the retina. Another cause of abnormal angiogenesis is the generation of damaging reactive oxygen species, which can lead to loss of the integrity of the cell junctions, which are important in maintaining normal compartmentalization of tissues.

“Mechanisms of Pathological Angiogenesis in Human Disease”

Several diseases affecting the retina and choroid involve abnormal angiogenesis, or blood vessel growth. However, vascular support is necessary for tissue homeostasis and functioning, particularly for the metabolically active photoreceptors and retina. Therefore, it is important to regulate and not abolish vascular support. Mechanisms leading to aberrant angiogenesis will be presented regarding one or more diseases of the retina or choroid.

Thursday, February 11, 2016
5:30PM Light Reception Ryan Family Atrium
6:00PM Lecture Baldwin Auditorium

Please RSVP to Raven Rodriguez at raven.rodriquez@northwestern.edu