

Mosbacher Pediatrics Chair: Battling a Rare Bone Cancer

Keri Schadler's face lights up as she talks about her work as a graduate research assistant in experimental pediatrics at The University of Texas M. D. Anderson Cancer Center. Since choosing to work in the laboratory of Eugenie S. Kleinerman, M.D., head of the Children's Cancer Hospital at M. D. Anderson, Schadler has been immersed in a study of the signaling protein Delta-like Ligand 4 and its role in vasculogenesis in Ewing's sarcoma. In lay terms, she hopes to determine whether agents that block DLL4 can be used to treat this rare form of pediatric bone cancer by blocking the development of blood vessels in tumors, essentially starving them to death.

Schadler is one of three young investigators in Kleinerman's lab who have benefited over the past year from funds provided by the Mosbacher Pediatrics Chair at M. D. Anderson, an endowed position established in 1978 by the Hon. Robert A. Mosbacher Sr.

Kleinerman, who has held the Mosbacher Pediatrics Chair since 2005, chooses to use the funds to support graduate student stipends, allowing trainees the means to work in her lab.

"My goal is to train Ph.D. investigators who truly understand disease processes, not just molecular pathways in isolated cells," says Kleinerman, who applied the past year's funding to trainees' salaries, benefits and lab materials. The funds also made it possible for trainees to attend a national conference, giving them the opportunity to present abstracts and interact with established investigators. "Supported by these funds, these budding young scientists are helping us better understand the biology of Ewing's sarcoma tumor cells and the vascular structures that support tumor growth. In turn, they are learning to do hypothesis-driven



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research, polishing presentation skills and gaining the experience necessary to succeed in the competitive academic research arena."

Kleinerman feels confident this research will identify potential new targets in the treatment of Ewing's sarcoma, which afflicts mainly adolescents and young adults.

"If we can prevent bone marrow cells from migrating into the tumor area and participating in the formation of new tumor vessels, and if we can prevent these bone marrow cells from differentiating into the pericytes that are needed to sculpt efficient tumor vessels, we think this will result in the inability of Ewing's sarcoma to grow and metastasize and may even lead to the regression of established tumors," she says.

Only 200 new cases of Ewing's sarcoma are diagnosed each year in the United States. Because Ewing's sarcoma is rare, the number of laboratories engaged in research is small compared with those involved in breast, colon, lung, ovarian and prostate cancers, Kleinerman says.

"It's particularly important to train the next generation of translational investigators focused on generating new knowledge of the processes that control the growth and metastasis of pediatric solid tumors to enable us to identify new therapeutic targets. What better way than to teach, engage and inspire young minds during their graduate education," she says. "The Mosbacher Pediatrics Chair has supported innovative research at M. D. Anderson for more than 30 years. Today, its impact continues as it provides a vehicle of hope for Ewing's sarcoma patients and their families around the world."

A life member of M. D. Anderson's Board of Visitors, Mosbacher was Secretary of Commerce during former President George H. W. Bush's administration and is chairman of Mosbacher Energy Company.



Eugenie S. Kleinerman, M.D.