Innovations in Cancer & Blood Disorders

Rady Children's Hospital San Diego

Rady Children's - A comprehensive system focused solely on children.

PEOPLE

New doctors, psychologist join team

Jennifer Elster, M.D., Hilda Ding, M.D., Victor Wong, M.D., and clinical psychologist Molly Berman have joined the Division of Hematology/Oncology at Rady Children's Hospital-San Diego.

Dr. Elster, a Southern California native, completed medical school at the University of Pittsburgh in Pennsylvania, followed by a pediatrics residency and pediatric hematology/oncology fellowship at the Children's Hospital of Pittsburgh. During her fellowship, she had an interest in solid tumors and received funding from the St. Baldrick's Foundation to study a novel mechanism of tumor angiogenesis. More recently, at the University of Louisville in Kentucky, Dr. Elster led the pediatric neuro-oncology and solid tumor programs while pursuing clinical research interests in immunotherapy for malignant brain tumors. Here in San Diego, she will devote her clinical practice and research activities to the care of children with solid tumors, with a focus on brain and spinal cord tumors.

Dr. Ding earned both her medical degree and a Master of Science in Healthcare Policy & Management in 2009 from the State University of New York at Stony Brook. She completed her internship in pediatrics at the Medical Center of Central Georgia, Mercer University in 2010 and her residency in pediatrics at Palmetto Health Children's Hospital, University of South Carolina in 2012. She then completed a fellowship program in pediatric hematology/oncology in 2015 and another fellowship in hemostasis and thrombosis in 2016, both at Rainbow Babies & Children's Hospital, University Hospitals of Cleveland, Case Western Reserve University. Dr. Ding will primarily be working with the hematology program and leukemia & lymphoma programs in both the inpatient unit and outpatient clinic.

Dr. Wong recently completed his pediatric hematology/oncology fellowship at UC San Diego, which is based at Rady Children's. During his fellowship, his research focused on cancer immunology and studying tumor-induced T-cell exhaustion at the La Jolla Institute of Allergy and Immunology. His clinical interest was examining the role of tumor profiling in guiding targeted therapy. Dr. Wong mainly does his rounds on the leukemia/lymphoma service and plans to spend additional time on the solid tumor service. In the near future, he seeks to combine his clinical and research interests to explore novel therapies for refractory and relapsed cancers.

Molly Berman, Psy.D., earned her doctorate in clinical psychology from The Wright Institute in Berkeley, Calif. Throughout graduate school, she was active member of the UC San Francisco Psycho-Oncology Department and conducted her doctoral dissertation on the topic of fear of cancer recurrence. Ms. Berman also pursued her passion of clinical psycho-oncology through working in pediatric oncology at UC San Francisco's Benioff Children's Hospital Oakland, volunteering as a counselor for oncology patients at Camp Okizu and gaining supplemental training in palliative care. She completed her APA-approved health psychology internship at the I Ola Lāhui Rural Hawai'i Behavioral Health Program, in which she served ethnically diverse and economically disadvantaged families within O'ahu and Moloka'i.

Prior to joining the Division of Hematology/Oncology, Ms. Berman was a post-doctoral psychologist in the Medical Behavioral Unit at Rady Children's. In the Division, she has teamed up with Anke Reineke, Ph.D., in providing psychological care to patients and their families. They offer evidence-based, culturally informed psychotherapy, including support and coping mechanisms for dealing with the diagnosis, pain, procedural anxiety and palliative care. The psychologists also work closely with physicians, social workers, child life specialists, parent liaisons and other health advocates to provide holistic care. Thanks to generous donations, they are able to serve families on the inpatient unit and outpatient clinic.

PROGRAMS

New genetics clinic launched

In May 2016, Rady Children's inaugurated the new Cancer Genetics Clinic, an interdisciplinary clinic that brings together expertise from the Division of Hematology/Oncology and the Division of Genetics/Dysmorphology to provide care, research and education for patients who have genetic cancer predispositions and their families.

In the program, patients who have genetic cancer predispositions have a combined visit with pediatric oncologist, Dennis John Kuo, M.D., M.S., and genetic counselor, Diane Masser-Frye, M.S., M.S.W, to assess their level of future cancer risk, to develop a personalized cancer surveillance plan and to provide education and counseling for the patient and family. Janet Yoon, M.D., and Donald Durden, M.D., Ph.D., are integral members of the team, bringing their clinical and research experiences to the development of this new program.

In addition to providing the best care for pediatric patients with cancer predispositions, the team is developing research studies with the Rady Children's Institute for Genomic Medicine and extramural partners to better understand these cancer predispositions.

RESEARCH

Exploring novel therapeutic targets for neuroblastoma

Peter Zage, M.D., Ph.D., a physician-scientist who recently joined the Division, is focusing his research on identifying novel targets for therapies in children with neuroblastoma and developing new therapies. The goals are to improve outcomes and reduce the incidence and severity of long-term side effects.

Dr. Zage's primary laboratory projects include studies to better understand the pathways involved in the regulation of growth factor receptor trafficking and degradation in tumor cells and their role in tumor growth and treatment response. He is also conducting studies to identify novel therapeutic targets and novel agents synergistic with established therapies.

Rady Children's Hospital San Diego

innovation belongs in every moment

INNOVATIONS

Personalized medicine for treating medulloblastoma

Individualized brain cancer therapy will soon be possible through a collaborative effort between Rady Children's, the Sanford Burnham Prebys Medical Discovery Institute and UC San Diego Moore's Cancer Center.

Dr. Crawford and patient

At Rady Children's, Michael Levy, M.D., Ph.D., director of the Division of Neurosurgery, is currently sending tissue of newly diagnosed children with brain cancer from the operating room to the team of Robert Wechsler-Reya, Ph.D., at Sanford Burnham and to Donald Durden, M.D., Ph.D., at the Moore's Cancer Center. Dr. Wechsler-Reya's team and Dr. Durden are then implanting the tumor cells into the brain of mice to mimic the pediatric disease.

The brain tumors that form in mice, termed "avatars," are used for molecular analysis to further categorize the genetics and drug screening, and to identify potential therapies should the patients fail standard-of-care therapies. Through screening thousands of drugs, several promising compounds have been identified against medulloblastoma that

His research has identified a key role for the ubiquitin ligase UBE4B in the regulation of receptor trafficking in neuroblastoma tumor cells. The *UBE4B* gene, located in the chromosome 1p36 region, is deleted in approximately one-third of neuroblastoma tumors, and *UBE4B* gene expression is strongly associated with neuroblastoma patient outcomes. UBE4B expression and activity are correlated with receptor trafficking, responses to therapy and neuroblastoma tumor differentiation, suggesting it may function as a novel tumor suppressor, prognostic marker and therapeutic target.

Using effective preclinical models of pediatric solid tumors developed in the laboratory, Dr. Zage has also identified several promising novel targeted agents for therapy, and he is translating many of these therapies into early phase clinical trials for children with relapsed and refractory solid tumors. He has identified a number of pathways required for neuroblastoma tumor cell survival after 13-cis-retinoic acid treatment, and these studies are likely to identify treatment combinations using readily available drugs that can also be rapidly tested in clinical trials, leading to improved treatments, reduced relapse rates and improved survival for children with all forms of cancer.

Dr. Zage's continued research looks to build on these findings through a better understanding of UBE4B-mediated growth factor receptor trafficking and its link to responses and resistance to targeted therapies and through direct targeting of receptor trafficking as a unique approach to pediatric solid tumor therapy.

will be used by John Crawford, M.D., M.S., director of neuro-oncology at Rady Children's, to design clinical trials for his patients based on their own tumors.

Tumor cell lines that have been created through the collaborative effort have been shared with researchers around the world in an attempt to cure medulloblastoma, the most common malignant brain cancer in children and the most common cause of death among all childhood cancers (based on the latest statistics from the Centers for Disease Control and Prevention).

Dr. Crawford and Janet Yoon, M.D., are also Rady Children's principal investigators for the Pacific Pediatric Neuro-Oncology Consortium, a network of 15 children's hospitals that conduct clinical trials of new therapies for children with brain tumors. The consortium's goal is to improve outcomes by translating the latest findings in cancer biology into better treatments and to focus on personalized medicine. The treatment studies currently offered are for patients with refractory low-grade gliomas and newly diagnosed high-grade brainstem gliomas.

Learn more at RCHSD.org