

Innovations in Pediatrics



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



PEOPLE



Justin Ryan leads new 3D print lab, joins Heart Institute

Justin Ryan, Ph.D., is bringing the art of 3D anatomical modeling - a highly technical and rapidly evolving field that holds incredible potential for transforming care - to Rady Children's Hospital-San Diego. He has also joined the [research team at Rady Children's Heart Institute](#).

A computer imaging and animation master-turned-biomedical engineer, Ryan joins the Hospital as director of the new 3D Visualization, Innovation, and Prototyping (3DVIP) Lab. The first of its kind in Southern California, the 3DVIP Lab will create 3D models and prints based on medical images, such as CT scans and MRIs, to support precise surgical planning and improve outcomes specifically for pediatric patients. In addition, the lab will train current and future physicians and scientists, develop educational resources for patients and families, and fuel further innovation in the 3D modeling space.

An accomplished leader in his field, Ryan previously ran the Cardiac 3D Print Lab at Phoenix Children's Hospital, where he created more than 500 unique cardiac models. The 3DVIP Lab and its services are a hospital-wide initiative; the lab's unique interdisciplinary structure will open the benefits of 3D modeling to patients facing everything from spinal conditions to neurological disease to plastic surgery.

The lab's leadership team includes Senior Vice President and Chief Medical Officer Gail Knight, M.D., M.M.M., Vice President of Operations Chris Abe, R.N., CIC, HEM, Cardiovascular Surgery Division Chief and Heart Institute Director [John J. Nigro, M.D.](#), and Orthopedics & Scoliosis Division Chief [Peter Newton, M.D.](#) The operations team includes [Sanjeet Hegde, M.D., Ph.D.](#), [V. Salil Upasani, M.D.](#), [Matthew Brigger, M.D., M.P.H.](#), [Daniel Vinocur, M.D.](#), [Howaida El-Said, M.D., Ph.D.](#), and [Kanishka Ratnayaka, M.D.](#)

The lab is planned to be fully operational by late September.

For inquiries, please contact 3DPrintLab@rchsd.org.



EVENTS

Grand opening to be held for new Murrieta medical building

Rady Children's Hospital is inviting the public to attend a grand opening event for the new Murrieta Medical Plaza on Saturday, Aug. 11. The plaza is currently open and providing services.

The event will celebrate and provide information on expanded pediatric outpatient services in Murrieta. These include 15 specialty clinics, primary care and developmental services, including [physical therapy](#).



innovation
belongs in every moment



INNOVATIONS

[occupational therapy](#), [speech-language pathology](#) and [Alexa's PLAYC](#) (Murrieta), a unique early education program opening on Sept. 4.

There will be tours of the new facility along with free food and fun and interactive activities for kids.

The three-story building is located at 25170 Hancock Ave. in Murrieta (between Murrieta Hot Springs and Los Alamos roads), just off Interstate 215.

[Learn more about Murrieta Medical Plaza.](#)



RECOGNITION

PICU garners prestigious award from nursing association

[The Pediatric Intensive Care Unit](#) (PICU) at Rady Children's Hospital recently received a gold-level Beacon Award for Excellence from the American Association of Critical-Care Nurses (AACN).

The award recognizes unit caregivers who successfully improve patient outcomes and align practices with AACN's six Healthy Work Environment Standards. Units that achieve this three-year, three-level award with gold, silver or bronze designations meet national criteria consistent with Magnet Recognition, the Malcolm Baldrige National Quality Award and the National Quality Healthcare Award.

The gold-level award signifies an effective and systematic approach to policies, procedures and processes that include engagement of staff and key stakeholders, fact-based evaluation strategies for continuous process improvement and performance measures that meet or exceed relevant benchmarks. The PICU earned the gold-level designation by meeting criteria in the following categories:

- Leadership Structures and Systems
- Appropriate Staffing and Staff Engagement
- Effective Communication, Knowledge Management, and Learning and Development
- Evidence-Based Practice and Processes
- Outcome Measurement

Learn more at www.aacn.org/beacon.



Brain tumor diagnosis improved by genomic profiling

Through a [Neuro-Oncology Research fund](#) at the [Rady Children's Institute for Genomic Medicine](#), [John Crawford, M.D., M.S.](#), and [Jennifer Elster, M.D.](#), are performing genomic profiling for patients with rare diagnoses, diagnoses for which there is not a standard of care and recurrent tumors.



About 20 patients have had genomic profiling to date. Some were diagnosed with medulloblastomas, including infants, and some had high-grade gliomas. Two patients recently benefited from the testing.

One patient, who was the first to have genomic profiling conducted through the genomics institute, had a diagnosis of a metastatic pineoblastoma and lesions on the brain and spine. The tumor was not responding to therapy. A re-resection was done, enabling the tumor to be sequenced. The findings revealed that the patient had a different tumor: a high-grade glioblastoma. The treatment was changed to a less toxic chemotherapy regimen, which improved the patient's quality of life.

The second patient, who is now in treatment, was diagnosed with an ependymoma. The patient had multiple re-resections, radiation treatments and chemotherapy regimens, but the tumor grew. The re-resections also caused neurological complications. A biopsy was taken and extensive genomic sequencing was performed to help further classify this recurrent tumor.

Based on the results, which showed an overexpression in a growth pathway, Drs. Crawford and Elster decided to try a drug used in adults. They started with a low dose, which the patient is tolerating; there are no symptoms of neurological complications. A scan will soon be done to check the size of the tumor. No growth, the doctors say, would be a good response.

The Neuro-Oncology genomics program and its multidisciplinary molecular tumor board will pave the way for individualized therapy for all children diagnosed with brain cancer.