

Pediatric Brain Tumor Center



Rendering of the future UCSF Benioff Children's Hospital opening at Mission Bay in 2015.

New Clinical Trials at UCSF Examine Neurocognition and Late Effects of Therapy

The Pediatric Brain Tumor Center has initiated two new clinical trials aimed at better understanding the long-term side effects of treatment.

How Does Radiation Therapy Affect Cerebrovascular Structures in Children?

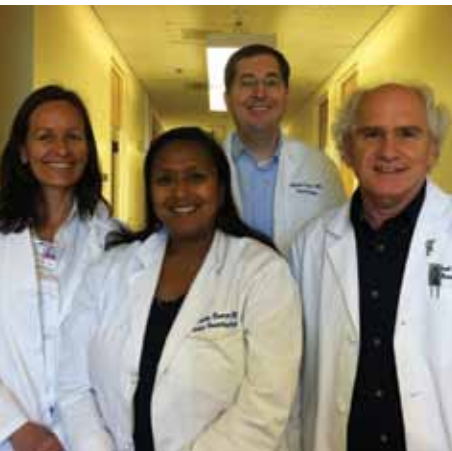
A recent study at UCSF revealed that children with brain tumors who receive radiation therapy to the brain and/or neck are at a significantly higher risk for stroke, and that the rate of recurrent stroke increases over time. The cumulative incidence of recurrent stroke is 21%

(95% CI 7.5-53) at 1 year after the first stroke, 29% (95% CI 12-61) at 5 years, and 43% (95% CI 19-78) at 10 years.

Another investigation, using data from the Childhood Cancer Survivor Study, showed that survivors of pediatric cancer who have been treated with radiation therapy have a higher risk for stroke that is dose-dependent and increases with age. Modifiable risk factors such as hypertension and diabetes further increased the stroke risk and should be monitored carefully in pediatric brain tumor survivors to reduce the risk of stroke.^{1,2}

Pediatric neuro-oncologist Sabine Mueller and pediatric stroke specialist Heather Fullerton, director of the Pediatric Stroke and Cerebrovascular Disease Center at UCSF Benioff Children's Hospital, have now designed a prospective trial – RadART-PRO – to study the rate of radiation-induced vasculopathy, as well as stroke and stroke recurrence, in children who received radiation to the brain or neck. This study is currently offered at UCSF, Children's Hospital Central California, and Children's Hospital & Research Center Oakland.

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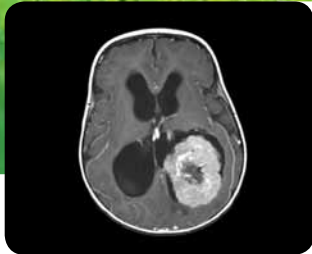
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Can a New Neuro-cognitive Training Program Help to Minimize the Effects of Therapy on Brain Function?

There is significant evidence that children with brain tumors, particularly those who receive radiation therapy at a young age, suffer from severe neurocognitive deficits. Currently there are no specific treatment options available for these children.

Dr. Mueller and fellow pediatric neuro-oncologist Anuradha Banerjee, in collaboration with Posit Science, Inc. (San Francisco, CA), will investigate whether children with brain tumors can complete a computerized neurocognitive training program designed to improve visual processing speed, auditory processing speed, and short-term memory. Children will undergo neurocognitive assessments before and after the training, and will be followed for

two years. The training program, called the Neurocognitive Brain Tumor Study, consists of several game-like exercises. Children will undergo the training program for 45 minutes each day, five days a week, for a total of two months.

For more information or to enroll a patient in these trials, contact Dennis Aguling by calling (415) 353-9387 or by e-mail at AgulingD@peds.ucsf.edu.

1. Mueller S, Fullerton HJ, Stratton K, Leisenring W, Weathers RE, Stovall M, Armstrong GT, Goldsby RE, Packer RJ, Sklar CA, Bowers DC, Robison LL, Krull, KR. Risk of first and recurrent stroke in pediatric cancer survivors treated with cranial

radiation therapy. Presented at the 2012 International Stroke Conference, New Orleans, LA, February 1-3

2. Mueller S, Sear K, Hills N, Chettout S, Afghani S, Lew LK, Tolentino E, Haas-Kogan DA, Fullerton H. Radiation

and modifiable stroke risk factors in adult survivors of pediatric cancer: results from the Childhood Cancer Survivor Study. Presented at the 2012 International Stroke Conference, New Orleans, LA, February 1-3



News & Events

UCSF now a Phase I Trial Site for the Children's Oncology Group

In November 2011, UCSF began offering phase I clinical trials for pediatric patients with brain tumors through the Children's Oncology Group (COG). We currently have 10 COG trials open for enrollment to provide children with new opportunities for combating their disease.

Multi-disciplinary Clinic

At UCSF, pediatric patients are treated by a multi-disciplinary team of experts to manage their health. Now pediatric patients and their parents can meet with these experts in one day at a multi-disciplinary brain tumor clinic. Specialists in neuro-oncology, neurosurgery, neuroendocrinology, physical rehabilitation, school liaisons and social work are available in the same location on the same day to develop

comprehensive treatment plans and answer questions.

Parent Education Day

On April 28, 2012 UCSF will host Parent Education Day to provide information and answer questions from parents of children with cancer. The event will take place at the UCSF Mission Bay Conference Center and will cover all types of pediatric cancers, including pediatric brain tumors. For more information, call: (415) 476-3138.



Pediatric Brain Tumor Clinical Trials

Questions about patients' participation in the following clinical trials can be directed to Dennis Aguling by calling (415) 353-9387 or by e-mail at AgulingD@peds.ucsf.edu. Alternatively, to contact the nurse practitioner in charge, please call (415) 476-3831.

Newly Diagnosed Tumor

High-Grade Glioma

A randomized phase II/III study of vorinostat (IND# 71976) and local irradiation OR temozolomide and local irradiation OR bevacizumab and local irradiation followed by maintenance bevacizumab (IND # 7921) and temozolomide in newly diagnosed high-grade glioma (Children's Oncology Group Study ACNS0822).

Ependymoma

Phase III randomized trial of post-radiation chemotherapy in patients with newly diagnosed ependymoma ages 1 to 21 years (Children's Oncology Group Study ACNS0831).

Medulloblastoma and Primitive Neural Ectodermal Tumor (PNET)

A study evaluating limited target volume boost irradiation and reduced dose craniospinal radiotherapy (18.00 Gy) and chemotherapy in children with newly diagnosed standard risk medulloblastoma: a phase III double randomized trial (Children's Oncology Group Study ACNS0331).

Efficacy of carboplatin administered concomitantly with radiation and isotretinoin as a pro-apoptotic agent in other-than-average-risk medulloblastoma/PNET patients (Children's Oncology Group Study ACNS0332).

A phase III randomized trial for the treatment of newly diagnosed supratentorial PNET and high-risk medulloblastoma in children < 36 months old with intensive induction chemotherapy with methotrexate followed by consolidation with stem cell rescue vs. the same therapy without methotrexate (Children's Oncology Group Study ACNS0334).

Atypical Teratoid/Rhabdoid Tumor

Treatment of atypical teratoid/rhabdoid tumors of the central nervous system with surgery, intensive chemotherapy, and 3-D conformal radiation (Children's Oncology Group Study ACNS0333).

Recurrent Disease

A phase I and pharmacokinetic study of AZD6244 for recurrent or refractory pediatric low-grade glioma (PBTC 029).

A phase I pharmacokinetic trial of PTC299 in pediatric patients with refractory or recurrent CNS tumors (PBTC-031).

A phase II clinical trial evaluating the efficacy and safety of GDC-0449 in children with recurrent or refractory medulloblastoma (PBTC-032).

A phase II study of bevacizumab and lapatinib in children with recurrent or refractory ependymoma (CERN08-01).

A phase I study to evaluate the safety and pharmacokinetics of panitumumab in children with solid tumors (Amgen Study 20050252).

Temozolomide with irinotecan versus temozolomide, irinotecan plus bevacizumab for recurrent/refractory medulloblastoma/CNS PNET of childhood: a COG randomized phase II screening trial (Children's Oncology Group Trial ACNS0821).

A Phase I study of temsirolimus in combination with irinotecan and temozolomide in children, adolescents, and young adults with relapsed or refractory solid tumors (Children's Oncology Group Trial ADVL0918).

A phase I study of MK-2206, an AKT inhibitor, in pediatric patients with recurrent or refractory solid tumors or leukemia (Children's Oncology Group Trial ADVL1013).

Trials Studying Late Effects of Treatment

Neurocognitive brain tumor study. This is a prospective UCSF study to test the feasibility of a computerized neurocognitive training program in children with brain tumors.

Neuropsychological, social, emotional and behavioral outcomes in children with cancer (Children's Oncology Group Trial ALTE07C1).

Pediatric Brain Tumor Clinical Trials in Development

A Phase I/II study of suberoylanilide hydroxamic acid (SAHA, Vorinostat) and local irradiation, followed by maintenance SAHA in children with newly diagnosed diffuse intrinsic pontine gliomas (DIPG) (Children's Oncology Group Trial ACNS0927).

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The Pediatric Brain Center (PBC) at UCSF Benioff Children's Hospital offers highly specialized care for growing brains. The Pediatric Brain Tumor Center is the component of the PBC dedicated to providing the most advanced treatments to children with brain tumors.