



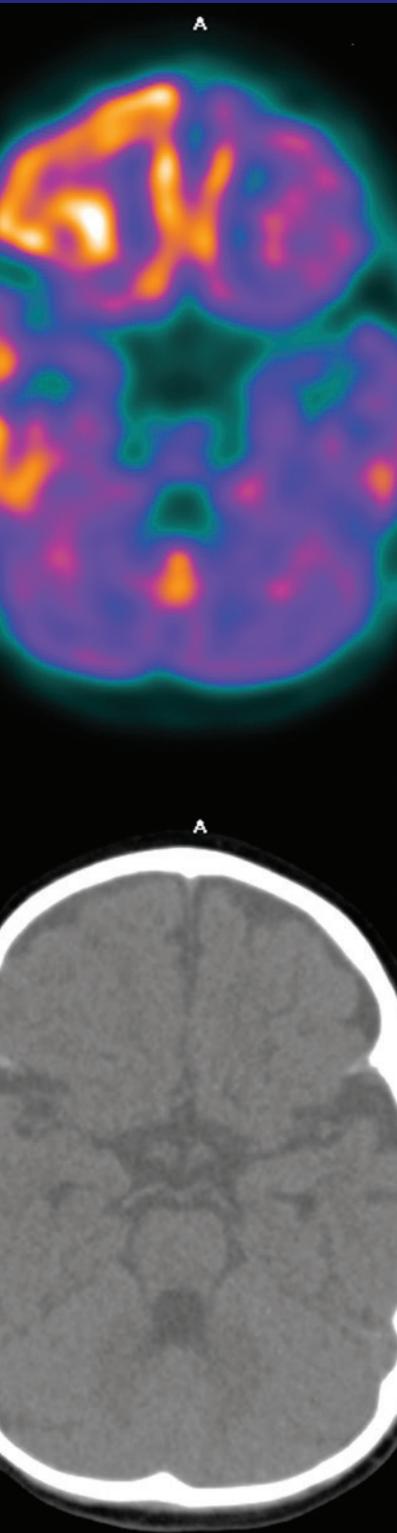
**UCSF** Benioff Children's Hospitals  
Pediatric Brain Center



## Pediatric Brain Tumor Program



# Refer a Patient



## Locations

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**UCSF Benioff Children’s Hospital Oakland**  
747 52nd St., Oakland, CA 94609

**UCSF Benioff Children’s Hospital San Francisco**  
1975 Fourth St., San Francisco, CA 94158

## Phone

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The UCSF Benioff Children’s Hospitals Pediatric Access Center can assist with referrals to any pediatric specialty at any location.  
(877) 822-4453 (877-UC-CHILD)

## Fax

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Use the referral form at the back of this guide.  
For Oakland referrals, fax all materials to (510) 985-2202.  
For San Francisco referrals, fax all materials to (415) 353-4485.

If you are unsure whether to fax your materials to Oakland or San Francisco, fax them to either location, and our skilled staff will contact your patient’s family to determine the most appropriate location for their visit.

## Web

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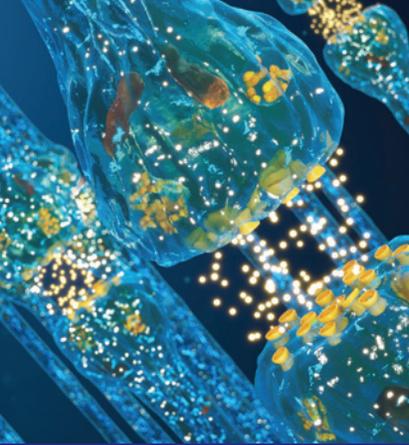
Visit [ucsfbenioffchildrens.org/referral](http://ucsfbenioffchildrens.org/referral).

## Physician Liaison Service

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Phone: (800) 444-2559  
Email: [liaisons@ucsf.edu](mailto:liaisons@ucsf.edu)





**UCSF** Benioff Children's Hospitals  
Pediatric Brain Center

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We are the first in Northern California to implement virtual reality for pediatric neurosurgical patients.



Kurtis Auguste, MD



Peter Sun, MD

**Our passion for helping kids never wavers.**



# Welcome

The Pediatric Brain Tumor Program is one of the longest-standing programs on the West Coast dedicated to taking care of children with brain tumors. Created in the 1960s, the program brings together the most highly educated and respected physicians, clinicians and researchers to provide care for our pediatric patients from beginning to end, ensuring that physical, emotional and social support is delivered through a comprehensive and collaborative approach.

The Pediatric Brain Tumor Program has been built around a tremendously rich neuroscience environment, with much of our research focused not only on improving diagnosis and therapies, but also on seeking to understand the long-term effects of cancer on the patient post-treatment, as well as gaining a better understanding of the genomic effects of cancer therapies.

Through dedicated and compassionate patient care, groundbreaking scientific discovery and synergistic partnerships, we continuously push the frontier of pediatric brain tumor therapies and support for patients and their loved ones. We invite you to learn more about our program as we continue to redefine possibilities within pediatric brain tumor trials and treatments.



**Mitchel Berger, MD**  
Neurosurgeon  
Director, Brain Tumor Center



**Sabine Mueller, MD, PhD, MAS**  
Pediatric neurologist  
Pediatric neuro-oncologist  
Director, Pediatric Brain Tumor Program

# Program Overview

The Pediatric Brain Tumor Program, part of UCSF's Pediatric Brain Center, was designed to integrate care across the clinical neurosciences, providing a single "home" that guides patients and their families through their medical evaluation and treatment, with all the specialists they need in one place.

Program strengths:

- International destination program for diffuse midline glioma (DMG)
- Center of Excellence for diagnosis and innovative therapeutic trial options for children and young adults with brain tumors
- Neurofibromatosis type 1 (NF1) program with multidisciplinary clinical care

Our goal is to cure as many patients as possible, while providing all patients with the best possible care and quality of life.



**BEST  
CHILDREN'S  
HOSPITALS**

& WORLD REPORT  
**U.S. News**

NEUROLOGY &  
NEUROSURGERY  
2023-2024

UCSF Benioff Children's Hospitals is nationally ranked for pediatric neurology & neurosurgery.



Our facilities are designed to help kids adjust and add fun and positivity to their time with us.



**100%  
pediatric-  
focused  
program**



**Kid-friendly scanning without anesthesia:**

Provides thorough assessment and preparation for children attempting a scan without anesthesia. The goal is to reduce anesthesia use and risk to patients, with lower cost to families.



**Video goggles to reduce anxiety and increase patient safety:**

MRI scans require patients to lie very still for long periods of time. Using video goggles, patients can watch their favorite movie, allowing children to relax and hold still.

*Photo from UCSF Radiology.*

**Colorful imaging suites:**

Colorful murals, music and sound effects, including moving images projected on the inside of the machine, help ease pediatric patients' anxiety.



# Advanced Technology

All of our equipment is kid-sized, and we know the protocols that work best for children. We use state-of-the-art surgical technologies and techniques to make procedures safer and more precise. During treatment, we work to address kids' fears and safeguard their developmental and emotional health.

## Surgery

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Surgery is the first-line treatment for the majority of pediatric brain tumors. UCSF Benioff Children's Hospitals are equipped with the most up-to-date imaging and surgical navigation systems available, including those that provide the following:

- 3D surgical neuronavigation
- Cortical mapping of language, motor and sensory functions
- Nerve monitoring
- Intraoperative magnetic resonance imaging (MRI) and computed tomography (CT) scans

In addition, because we are acutely aware of the neurodevelopmental risks posed by early surgery, our outstanding outcomes are enhanced by our attentive efforts – in collaboration with UCSF's pioneering Neuro-Intensive Care Nursery and our Healthy Hearts and Minds Program – to protect infant brain development.

## Radiation Therapy

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Radiation therapy can be used as a first-line treatment for tumors that cannot be removed with surgery, as an adjunct to surgery or to treat residual disease or recurrent tumors. Options include the following:

- Intensity-modulated radiation therapy
- Gamma Knife radiosurgery
- CyberKnife radiosurgery
- 3D conformal radiation therapy

## Neurointerventional Radiology

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Scientists and physicians at UCSF have pioneered many of the neurointerventional radiology (neuro IR) innovations of recent decades. These techniques are saving lives that just a few years ago would have been lost.

**BEST  
CHILDREN'S  
HOSPITALS**

**U.S. News**  
& WORLD REPORT

CANCER  
2023-2024

UCSF Benioff Children's Hospitals is best in  
Northern California for pediatric cancer care.

# Pediatric Brain Tumor Research

Our research program spans multiple areas of investigation, with a particular focus on understanding how the brain develops and finding new treatments for pediatric brain tumors. From computational biology studies to clinical trials of checkpoint inhibitors, UCSF is leading the way to new breakthroughs.

To accelerate this work, we have also created strong research partnerships with clinical trials consortia, government agencies, other academic institutions and industry.

## Neuroimaging

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UCSF is one of the few institutions with hyperpolarized carbon-13 ( $^{13}\text{C}$ ) MRI technology, a type of metabolic imaging that can identify and monitor brain tumor response to treatment. This new neuroimaging technique can be used to tell if a drug regimen is working just days after it is administered. Ongoing work aims to improve the technology for use in the enhanced detection and real-time monitoring of brain tumor metabolism.

## Precision Medicine

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Precision medicine is an emerging approach that has taken giant steps in clinical practice for cancer treatment. Recent advances in molecular diagnostics, including next-generation sequencing, have greatly facilitated our understanding of pediatric cancer and identified additional therapeutic opportunities. Pediatric tumors have different genetic profiles – and fewer actionable targets – than adult tumors. Gene sequencing of the tumor is now part of standard of care and is used to personalize treatment at UCSF Benioff Children's Hospitals.



## Clinical Trials

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UCSF has a large clinical trials program and many patients can participate in studies of promising experimental therapies, including:

- Targeted drug therapy
- Immunotherapy
- Precision medicine
- Cognitive and behavioral therapy
- Convection-enhanced delivery

## Overcoming the blood-brain barrier

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UCSF is leading innovative target validation trials. Participating patients receive a specific therapy prior to their standard of care surgical resection, so we can directly measure the effect in the tumor tissue.

# Featured Research

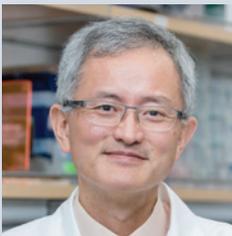


**Janine Lupo, PhD**

Professor

Department of Radiology and Biomedical Imaging

Dr. Lupo's lab studies the areas of the brain that are more sensitive to radiation and investigates the relationship between vascular injury, structural and functional brain connectivity, and cognitive function. Its aim is to better understand the long-term effects of radiation therapy on children's brains and help tailor future therapies.



**Hideho Okada, MD, PhD**

Professor

Director, Brain Tumor Immunotherapy Center

Dr. Okada's team has translated multiple discoveries into novel immunotherapy trials for children and adults. One approach involves genetically engineering some of the patient's own immune cells to recognize a specific molecular target that is found on tumors – including most cases of DIPG as well as related gliomas – but not on normal cells.



**Joanna Phillips, MD, PhD**

Professor

Director, Brain Tumor Center Tissue Bank

Dr. Phillips' research focuses on understanding how invading tumor cells interact with the components of the brain tumor microenvironment, and how these key interactions influence glioma development and response to therapy.



**David Solomon, MD, PhD**

Professor

Department of Pathology

Dr. Solomon's research team has characterized many rare brain tumor types, with the goal of identifying therapeutic vulnerabilities. Recently, their comprehensive genomic and epigenomic analysis of bithalamic gliomas in children indicates that these tumors may be sensitive to treatment with targeted kinase inhibitors. Development of a randomized clinical trial is now underway.

Saving  
future lives

We are home to 16 research laboratories, each dedicated to a unique aspect of pediatric brain tumor risk, biology, diagnosis and treatment.

# Multi-Institution Consortia

## Pacific Pediatric Neuro-Oncology Consortium

Cassie Kline, MD, MAS; Sabine Mueller, MD, PhD, MAS; and Michael D. Prados, MD, lead the Pacific Pediatric Neuro-Oncology Consortium (PNOC), the largest pediatric brain tumor consortium in the world. A collaborative effort among global institutions, PNOC strives to identify better treatment options for children by focusing on precision medicine trials.



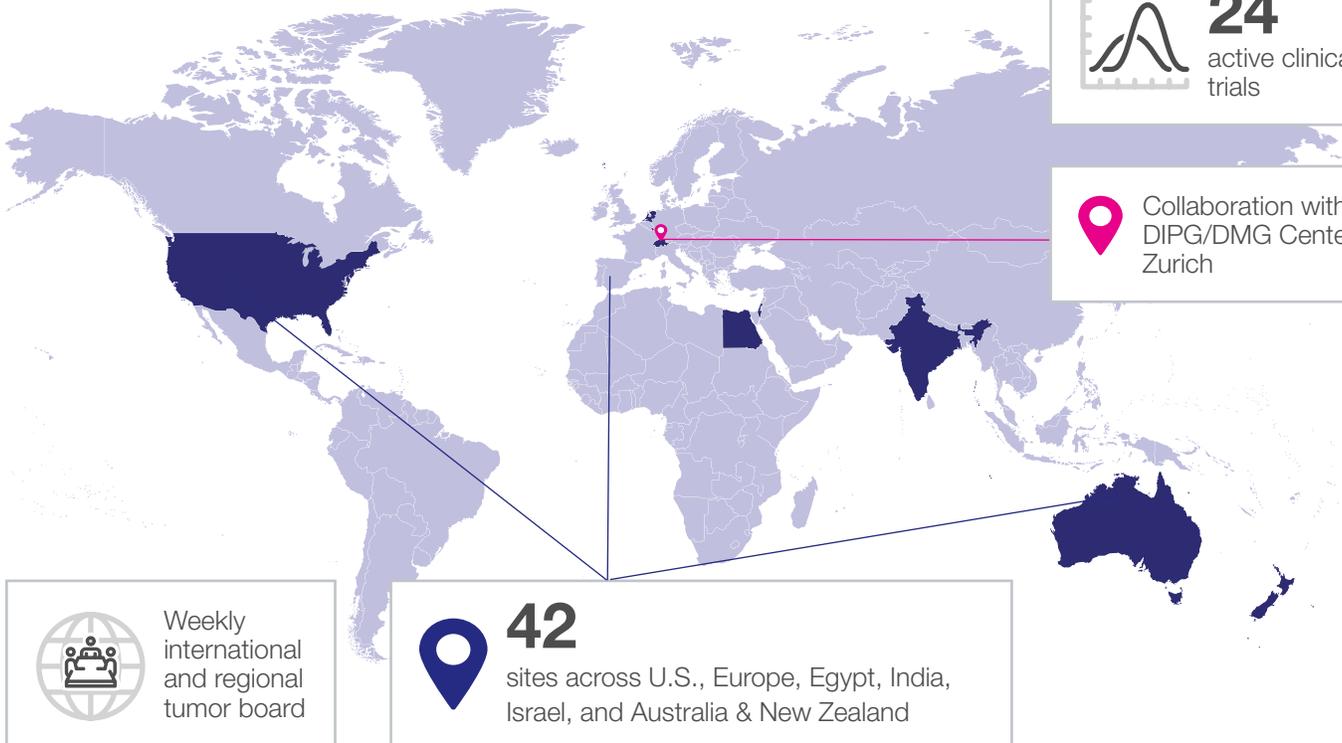
**275**  
pediatric  
brain tumor  
specialists



**24**  
active clinical  
trials



Collaboration with  
DIPG/DMG Center  
Zurich



Weekly  
international  
and regional  
tumor board



**42**  
sites across U.S., Europe, Egypt,  
Israel, and Australia & New Zealand

## Children's Brain Tumor Network

Principal investigators Nalin Gupta, MD, PhD, and Joanna Phillips, MD, PhD, are leading research in collaboration with the national Children's Brain Tumor Network (CBTN). CBTN is dedicated to driving innovative discovery, pioneering new treatments and accelerating open science to improve health for all children and young adults diagnosed with a brain tumor.

## Children's Oncology Group

UCSF has been accepted into the Children's Oncology Group (COG) Phase 1 Consortium, an elite National Cancer Institute consortium of institutions selected to lead phase 1 studies of potential pediatric cancer drugs. UCSF is one of three core Pediatric Early Phase Clinical Trials Network sites, and it is the only such site in Northern California.

# Specialized Support Services



## Inpatient Educational Support

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While children are in the hospital, we encourage them to continue their education through the hospital's K-12 school program, which is staffed by credentialed teachers from the San Francisco Unified School District.

## School Re-Entry

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When our patients are ready to return to school, the UCSF School Re-Entry Program provides the child's teacher, other school staff and classmates with information about the child's illness and experiences in the hospital. The program is especially effective for children who are re-entering school with a marked cognitive, behavioral or physical change.

## Survivorship Program

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The UCSF Pediatric Survivorship Program helps survivors of pediatric cancer achieve optimal physical and emotional health through medical care, education and research.

The Survivorship Clinic is held biweekly for survivors of pediatric cancer who have completed treatment at least two years earlier. The clinic visit includes a consultation with a pediatric cancer specialist, dietitian, nurse and social worker.



## Palliative Care

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The Integrated Pediatric Pain and Palliative Care inpatient service is available 24 hours a day, seven days a week. The service provides comprehensive acute and chronic pain management and an extra layer of support for children and families facing serious illness.





Kurtis Auguste, MD



Anuradha Banerjee, MD, MPH



Mitchel Berger, MD



Steve Braunstein, MD, PhD



Taron Davis, MD



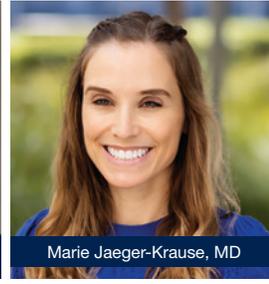
Nalin Gupta, MD, PhD



Caroline Hastings, MD



Winson Ho, MD



Marie Jaeger-Krause, MD



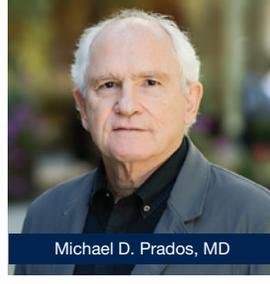
Mitul Kapadia, MD



Maya Lodish, MD



Sabine Mueller, MD, PhD, MAS



Michael D. Prados, MD



Bo Qiu, MD, PhD



David Raleigh, MD, PhD



Alyssa Reddy, MD



Peter Sun, MD



Kristen Ghousaini, PNP, MSN



Dina Hankin, PhD



Joyce Harvey, PNP, MSN



Carly Hoffman, PNP, MSN



Shannon Lundy, PhD



Stephanie Petruzzi, LCSW, MSW



Shannon Raber, PNP, MSN



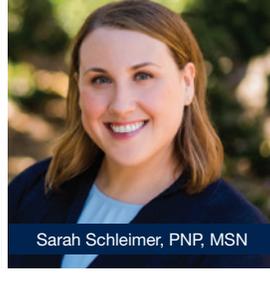
Wendy Santos-Modesitt, PhD



Megan Bailey, PA-C, MHS



Caroline Farless, PNP, MSN



Sarah Schleimer, PNP, MSN



Rebecca Silvers, PNP, MSN

# Pediatric Brain Tumor Program Care Team

## **Pediatric Neuro-Oncology**

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Sabine Mueller, MD, PhD, MAS,  
*Director, Pediatric Brain Tumor Program*  
Anuradha Banerjee, MD, MPH  
Bo Qiu, MD, PhD  
Caroline Hastings, MD  
Marie Jaeger-Krause, MD  
Michael D. Prados, MD  
Alyssa Reddy, MD

## **Pediatric Brain Tumor Surgery**

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Nalin Gupta, MD, PhD,  
*Chief, Pediatric Neurosurgery*  
Kurtis Auguste, MD  
Mitchel Berger, MD  
Winson Ho, MD  
Peter Sun, MD

## **Radiation Oncology**

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Steve Braunstein, MD, PhD  
David Raleigh, MD, PhD

## **Rehabilitation**

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Taron Davis, MD  
Mitul Kapadia, MD  
Yumi Mitsuya, MD  
Mai Ngo, MD  
Courtney Sagar, MD  
Kathryn Sigford, MD

## **Endocrinology**

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Maya Lodish, MD

## **Nursing**

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Sara Goldfarb, RN  
Kristin Matulich, RN

## **Psychology**

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Dina Hankin, PhD  
Shannon Lundy, PhD  
Wendy Santos-Modesitt, PhD

## **Advanced Practice Providers**

---

Megan Bailey, PA-C, MHS  
Caroline Farless, PNP, MSN  
Kristen Ghousaini, PNP, DNP  
Joyce Harvey, PNP  
Carly Hoffman, PNP, MSN  
Shannon Raber, PNP, MSN  
Sarah Schleimer, PNP, MSN  
Rebecca Silvers, PNP, DNP

## **Social Work**

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Stephanie Petruzzi, LCSW, MSW

## **Research Laboratories**

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Arturo Alvarez-Buylla, PhD  
Steve Braunstein, MD, PhD  
Aaron Diaz, PhD  
Nalin Gupta, MD, PhD  
Winson Ho, MD  
Daniel Lim, MD, PhD  
Janine Lupo, PhD  
Annette Molinaro, MA, PhD  
Sabine Mueller, MD, PhD, MAS  
Hideho Okada, MD, PhD  
Joanna Phillips, MD, PhD  
Russell Pieper, PhD  
David Raleigh, MD, PhD  
Bjoern Schwer, MD, PhD  
David Solomon, MD, PhD  
William Weiss, MD, PhD

World-class experts from every discipline related to children's neurological health

Patients have access to the most advanced therapies available, as well as neuropsychological consultation and palliative care for life-threatening conditions if needed.



Nalin Gupta, MD, PhD

# Referral Form

**Fax Oakland referrals to (510) 985-2202.**

URGENT

**Fax San Francisco referrals to (415) 353-4485.**

URGENT

From: \_\_\_\_\_ Date: \_\_\_\_\_ No. of pages: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Referred to Specialty/Clinic: \_\_\_\_\_ Referred to Provider (optional): \_\_\_\_\_

## PATIENT INFORMATION

Patient First Name: \_\_\_\_\_ Last Name: \_\_\_\_\_

DOB: \_\_\_\_\_ Gender: \_\_\_\_\_

Home phone: \_\_\_\_\_  Work phone or  Cell phone: \_\_\_\_\_

Interpreter needed:  Yes  No Language: \_\_\_\_\_

Parent/Guardian: \_\_\_\_\_ Relationship to Patient: \_\_\_\_\_

DOB: \_\_\_\_\_ Email: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

## CONSULTATION REQUEST INFORMATION

Diagnosis: \_\_\_\_\_ ICD 10: \_\_\_\_\_

Reason for referral: \_\_\_\_\_

Include brief pertinent medical records that support the consultation:  Clinical notes  Growth charts  Imaging  Labs

## REFERRING PHYSICIAN INFORMATION

Referring MD: \_\_\_\_\_ Specialty: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Office Name: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Signature: \_\_\_\_\_

## PCP INFORMATION

PCP Name: \_\_\_\_\_ Phone: \_\_\_\_\_

## INSURANCE INFORMATION

Include copy of insurance card (both sides)

Subscriber Name: \_\_\_\_\_ DOB: \_\_\_\_\_

Health Plan: \_\_\_\_\_ Member ID: \_\_\_\_\_

Group #: \_\_\_\_\_ Authorization #: \_\_\_\_\_

Secondary Insurance, if any: \_\_\_\_\_

By providing the information requested and signing above, you agree that we may initiate treatment following consultation or perform medically necessary diagnostics, in association with this consultation. We look forward to collaborating with you on your patient's treatment plan.

NOTICE OF CONFIDENTIALITY: This is a confidential fax and is intended solely for the person indicated above. If you are not the intended person, you are hereby notified of the confidential nature of this fax and that you are not entitled to read, copy or otherwise disseminate any of the information contained herein.



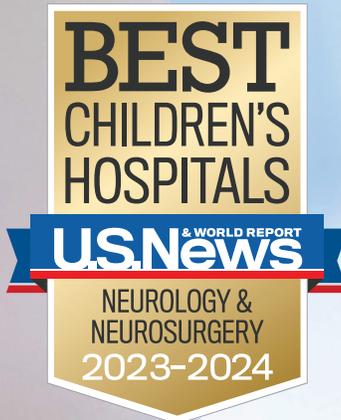
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Pediatric Brain Center

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[ucsfbenioffchildrens.org/brain-tumor](https://ucsfbenioffchildrens.org/brain-tumor)



**UCSF Benioff Children's Hospitals is nationally ranked  
for pediatric neurology & neurosurgery.**

