A MESSAGE
FROM OUR LEADERSHIP

We are pleased to share with you some of the milestones achieved by the Department of Pediatrics, in collaboration with Rady Children’s Hospital and the Medical Practice Foundation. We celebrate the meaningful contributions of our physicians, physician-scientists and scientists in this 2013-2015 report.

For years, the Department of Pediatrics at UC San Diego (UCSD), Rady Children’s Hospital and the Medical Group in the Medical Practice Foundation have shared a commitment to the health and well-being of children in San Diego County and beyond. The collaboration between these entities unified patient care, research, education, community service programs, and advocacy in the region. It has led to national recognition for world-class pediatric care and research and the potential to change the course of pediatric medicine. As an example for this achievement, we now care for about 85% of the children in San Diego County and 50% of Imperial and Riverside Counties, thus amounting to about 900,000 children seeking medical and surgical advice at Rady Children’s Hospital. Another illustration is the increase in research revenues from about $25 million in 2005-2006 to about $61 million dollars in each of the past 2 years.

With the opening of an additional pavilion at Rady Children’s, a few years ago, this Hospital has become the largest children’s hospital in California and the eighth largest in the country. In the last consecutive few years, the Hospital was ranked in all 10 pediatric specialties surveyed by U.S. News & World Report. Those rankings place the Hospitals among the nation’s elite children’s hospitals, and are even more remarkable considering the relative youth of Rady Children’s, compared to other children’s hospitals, which have built their reputations over many more decades.

Sincerely,

GABRIEL HADDAD, MD
Distinguished Professor of Pediatrics and Neurosciences
Chairman, Department of Pediatrics
University of California, San Diego
Physician-In-Chief and Chief Scientific Officer
Rady Children’s Hospital-San Diego

DONALD KEARNS, MD
President and CEO
Rady Children’s Hospital-San Diego

HERBERT C. KIMMONS, MD
President
Rady Children’s Specialist of San Diego
Executive Director, Medical Practice Foundation
Dean, Children’s Clinical Services
University of California, San Diego

- ACKNOWLEDGEMENTS -

Thank you to these Department of Pediatrics staff members for their contributions, who made this Biennial Report possible: Mercedes Alcoser, Jodi Bengel, Melanie Marshall

And appreciation is given to the Divisions for their contributions and assistance.
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INTRODUCTION

In the last several years, considerable progress has been made in strengthening and expanding the mission, services, and resources of the Department of Pediatrics. These successes have created a welcomed ripple effect which strengthens and furthers the clinical, academic, and scientific achievements of Rady Children’s Hospital and the University of California, San Diego. The Department is critically dependent on both institutions for resources, therefore fostering, nurturing and growing this relationship is essential to everyone’s success.

In this 2013-2015 Biennial Report, many of the major accomplishments of our divisions and faculty are highlighted. We hope you enjoy this issue, and we welcome your feedback and questions.

ACADEMIC GENERAL PEDIATRICS, CHILD DEVELOPMENT & COMMUNITY HEALTH

- The Division has vibrant academic-research partnerships locally, across the U.S., and in Mexico and Chile.
- The Child Development-Behavioral Pediatrics fellowship program was awarded the highly competitive HRSA, Maternal Child Health Bureau grant for “Leadership in Education in Developmental-Behavioral Pediatrics” (07/01/2013 - 06/30/2018).
- The Center for Community Health has funding from the National Institutes of Health, American Heart Association, Centers for Disease Control and Prevention, The San Diego County Health and Human Services Agency Centers for Disease Control and Prevention, The San Diego County Health and Human Services Agency, the Network for a Healthy California Foundation and other foundations, totaling $2,203,968.
- A number of physicians in this division were named “San Diego Top Doctors”.

ALLERGY, IMMUNOLOGY & RHEUMATOLOGY

- This Division maintains an internationally recognized research program in the areas of translational and clinical research in autoinflammatory disorders, genetics of rare inherited diseases, Kawasaki disease, food allergy, eosinophilic esophagitis, and basic research in T cell immunology, and is currently building clinical research programs in pediatric rheumatology, severe asthma, and immunodeficiency.
- Dr. S. A. Acres was elected to the American Society of Clinical Investigation in 2013. Dr. Hoffman has been a member since 2012.
- Dr. L. Brodieck obtained an R01 last year.
- Dr. R. Sheets received the Hospital Teaching Award as well as the Teaching Award from the Residents.

CRITICAL CARE & ANESTHESIA

- This division is consistently ranked in the top few programs for observed predicted mortality rates.

DERMATOLOGY

- The Division is one of the largest pediatric dermatology units in the United States, and is a highly respected center with a national and international reputation for clinical, research and educational excellence.
- The 2013-2016 academic years were very successful, with significant contributions to the fields of dermatology and pediatrics in research, leadership, and advocacy, and expansion of the clinical services.
- The Division exceeded 20,000 patient visits and over 1,500 surgical, laser and phototherapy procedures per year, with services in satellite clinics throughout San Diego County, including Oceanside, Murrieta, Encinitas and Escondido.
- The research program broadened its research work in inflammatory skin disease.

DYSMORPHOLOGY AND TERATOLOGY

- The division employed over 70 clinical and research staff, had $27,760,070 in total funding, and published 56 manuscripts, 6 book chapters and 1 book.
- The Division remains at the forefront both nationally and internationally in the field of Fetal Alcohol Spectrum Disorders (FASD). Advances include the award of a 4 year grant from the CDC to train pediatricians and nurses in the prevention of alcohol-exposed pregnancies; the development of a telemedicine program whereby long-distance evaluation of a child for FASD can be conducted; the launching of nurse conducted FASD screenings; and creating the SoCal NOFAS website and a local bilingual support group for families affected by FASD.
- Dr. Tina Chambers received the Rady Children’s Hospital Excellence in Research Award in 2015.

EMERGENCY MEDICINE

- The Emergency Medicine Division is the busiest pediatric emergency Room on the West Coast, seeing over 90,000 patients in 2015, and is the 10th busiest in the U.S.
- For the past year, the LWBS has been below 0.5.

ENDOCRINOLOGY

- The Division was recognized among the top 30 programs in Pediatric Endocrinology in the U.S. News & World Report ranked number 16 in 2013 and 12 in 2014.
- The Diabetes Center at RCHSD received the American Diabetes Association Recognition Award for meeting the standards of education in diabetes self-management.

GASTROENTEROLOGY, HEPATOLOGY & NUTRITION

- The Fatty Liver Clinic was the first of its kind in the country to care for children and adolescents with fatty liver disorders. The state-of-the-art care is complemented by an active research program on obesity and fatty liver disease.
- With more than $8 million in research funding relating to gastroenterology, hepatology, and nutrition, the Division is a growing national leader in generation of new knowledge relating to the field being at the forefront of scientific research in areas such as obesity and its metabolic complications, chronic liver diseases including steatohepatitis, as well as intestinal biology and immunology.
- Dr. Lati Bode is the president-elect of the International Society for Research in Human Milk and Lactation Editorial Board Member - Advances in Nutrition.
- Dr. Mosuia was named a Best Doctor in America and Americas Top Physicians.

HEART INSTITUTE/CARDIOLOGY

- This division has grown immensely in the past few years, with two new programs starting 2014. (The transplant (UNOS certification) – 6 transplants were done in 2015 with 100% survival, 1 artificial heart.
- A major effort was devoted to the prevention of CV disease (CYPEU just been added with 12 beds). There have been 8 new faculty recruitments since 2014, bringing the total of Division faculty to 20.
- Awarded 3-star (highest) designation by Society of Thoracic Surgeons. Only 10 of 117 heart programs in nation have received this rating due to mortality rate being 1 point below average.
- The cardiac catheterization program has continued to increase reaching a total of more than 860 annually, making this program one of the largest program in the country.

HEMATOLOGY/ONCOLOGY

- This Division is part of a National Cancer Institute designated Comprehensive Cancer Center.
- Alliance with St. Jude Children’s Research Hospital which focuses on the development of clinical, translational, and basic research in the area of childhood cancer. Currently, 12 joint clinical trials are available to the children of San Diego. Also, joint efforts in International Outreach have led to the creation of successful Pediatric Oncology Programs in Tijuana, Mexico and La Paz, Mexico.
- Dr. B. Biels Roig was given the Rady Children’s Hospital Annual Excellence in Clinical Care Award in 2015
- Dr. D. Durden was appointed on the Editorial Board, Molecular Cancer Research (MCR)(AACR), 2015
- Dr. J. Crawford was given the 2015 Senior Faculty Teaching Award from the Department of Neurosciences

GENETICS

- This Division has been remarkably successful in the past few years. The Division holds more than $5 million in grants and has published over 70 original articles and chapters within the last 2 years. published over 70 original articles and chapters within the last 2 yrs
- Dr. T. Friedman got the Japan Prize in 2015.
- Dr. J. Crawford was given the 2015 Senior Faculty Teaching Award from the Department of Neurosciences
- Dr. D. Durden was appointed on the Editorial Board, Molecular Cancer Research (MCR)(AACR), 2015
- Dr. T. Rana got an Avant-Garde Award from the NIH in 2015.
- Dr. R. Aoki was inducted into the American Association of Physicians (AAP) in 2013.
- Dr. T. Rana got an Avant-Garde Award from the NIH in 2015. He was also elected fellow of the American Association for the Advancement of Science: 2015

GENOME INFORMATION SCIENCES

- The Division has grown also in the past few years. This Division has over $18 million in research funding.
- Dr. R. Kraizer laboratory is involved in the NextGen Program of the National Human Genome Research Institute (NHGRI) and the Heart, Lung, and Blood Institute (NHLBI), which is aimed at generating and utilizing iPSIC to investigate the biological mechanisms underlying disease association with genetic variants. Dr. Kraizer’s laboratory has specifically been funded to link cardiac molecular phenotypes to genotypes through the generation of iPSC-derived cardiomyocytes from 222 individuals in the CARDIPS collection.

HOSPITAL MEDICINE

- The Division has seen expansion, and strong clinical and scholarship activities in the past few years.
- The Division began in 1978 by Dr. Eric “Buz” Kaufman, and is considered the oldest pediatric program in the nation.
- The Division developed one of the first 3 PIM fellowship training programs in the country.
- Received superior scores in U.S. News and World Report for “success with asthma inpatients” and “management of asthma patients.”
- Dr. E. Fishler was named one of the Best Doctors in America, 2014, and listed in San Diego Magazine Top Doctors 2014, 2015
Neonatology has also established a Neuro-NICU program. The Division has a robust Pharmacometrics Unit, recognized internationally for its leadership in pharmacokinetic and pharmacoodynamic modeling, including sparse data collection techniques and population analysis methodologies that enable appropriate dosing in pediatric subpopulations. The Pediatric Pharmacology Laboratory (PPL) provides many core services for the NICU and the UCSD International Maternal Pediatric Adolescent AIDS Clinical Trials Network (IMPACT) pharmacology program. Rob Knight Co-founded the Earth Microbiome Project and the American Gut Project, both of which are primarily run from his laboratory at UCSD. Received the Vilcek Prize for Creative Promise in Biomedical Science and Thomson Reuters Highly Cited Researcher. Named in Science Watch and as “Hottest Scientific Researchers and Research.”

The Center serves 9,400 children and families annually. From the US and 30 countries worldwide. The Center provides education to over 22,000 professionals in pediatric subspecialties.

Respiratory Medicine
- The Division has maintained a national ranking in Pulmonology in the U.S. News and World Report survey of children’s hospitals since 2009.
- Two fellows have received prestigious Pediatrics Scientist Development Program (PSDP) Awards. Paul Quinton, PhD received the 2015 Distinguished Achievement Award, American Thoracic Society. There are several Best Doctors in America and Top Doctors: Gabriel Haddad, James Hagood, Daniel Lesser, Meerana Lim, and Julie Ryu.

Neurology
- This Division has grown tremendously and now has an “amalgamated” division regarding teaching and research between Rady and UCSD NICUs. A number of faculty have been recruited to both units and a number of physician-scientists have been recruited to this Division. A number of faculty now rotate through both units and there is better collaboration now at all levels between faculty in main NICUs and region alone.
- Regionally, Neurology has 208 NICU beds total.
- The Division has been ranked in the top 20 nationally by U.S. News & World Report.
- Neurology has also established a Neuro-NICU program.

Pediatric Residency program
- The goal of the Pediatric Residency Program at the UC San Diego/Rady Children’s Hospital San Diego (RCHSD) is to train pediatricians to be well versed in all aspects of caring for sick and well children by integrating the art and science of pediatric medicine.
- The Program attracts medical students from major medical schools across the country and trains residents for careers in primary care and pediatric subspecialties.
- Located in the seventh largest city in the U.S. and on the border with Mexico, the program offers unique experiences in clinical and community pediatrics including exposure to border health and diverse populations including those from immigrant, inner-city, rural, and military communities.

Infectious Diseases
- This Division covers all the clinical activities in Infectious Disease at Rady, and has major research activities that span from basic research to population health, with faculty including Drs. Bradley, Spector and Sawyer.
- Dr. Bradley was the co-lead of the CDC/IDSA/PIDS National Guidelines Writing Group for the Diagnosis, Treatment and Prevention of Influenza and the Chair, PIDS/IDSA Guidelines Writing Committee for Pediatric Community Acquired Pneumonia. Dr. Sawyer was Member, FDA Vaccines and Related Biological Products Advisory Committee. Dr. Spector was on the Pediatric Antiretroviral Working Group of the World Health Organization (WHO) and a Panelist member, Perinatal HIV guidelines, Department of Health & Human Services.

Pediatrics Residency Program
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RCHSD AFFILIATIONS

RCHSD has developed formal affiliations with every hospital and medical group in the region. These partnerships include faculty joint ventures, specialty physician coverage, transfer agreements, and community health affiliations.
RCHSD provides the majority of acute and specialty care for the children of San Diego County

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<tr>
<th>County</th>
<th>Age Group</th>
<th>RCHSD Pediatric Market Share</th>
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<tr>
<td>San Diego County</td>
<td>0-14</td>
<td>90.4%</td>
</tr>
<tr>
<td>South Riverside County**</td>
<td>0-14</td>
<td>60.8%</td>
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<tr>
<td>Imperial County**</td>
<td>0-14</td>
<td>54.0%</td>
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**RCHSD is a major out-of-region referral recipient
†Includes Temecula, Murrieta, Lake Elsinore Menifee & Wildomar

Source: Office of Statewide Health Planning and Development Hospital Discharge Data

**INSURANCE PROVIDER BREAKDOWN**

- Commercial/Managed Care: 36.10%
- MEDI-CAL: 48%
- Medicare: 0.50%
- Out-of-State Medicaid: 1.6%
- Self-Pay & Charity Care: 1.6%
- TriCare: 6.3%

**ACUTE CARE HOSPITAL PATIENT DAYS 2002-2015**

**SURGICAL VOLUME 2002-2015**

**EMERGENCY SERVICES VOLUME 1994-2015**
Academic General Pediatrics, Child Development & Community Health
The Division of Academic General Pediatrics, Child Development & Community Health, led by Dr. Sheila Gahagan, focuses on clinical care and medical education in General Pediatrics, Adolescent Medicine, and Developmental-Behavioral Pediatrics. The Division has several robust research programs and provides considerable health promotion in the community. Dr. Sheila Gahagan, a Developmental-Behavioral pediatrician and epidemiologist who holds the Martin T. Stein Endowed Chair in Developmental-Behavioral Pediatrics, leads the division of 22 faculty members, 8 adjunct faculty members, and 3 developmental-behavioral pediatric fellows. The Division also has 27 research and health promotion staff, over half with advanced degrees. The division’s four-fold clinical mission is to provide: 1) a medical home from birth through adolescence including for those with complex chronic conditions; 2) consultative care to promote breast feeding including for premature infants; 3) evidence-based developmental-behavioral pediatric evaluation and treatment to children from birth to 21-years old; and 4) care for adolescents with eating disorders, acute and chronic conditions, and sexual/reproductive health needs.

The research focus includes childhood obesity, early life risk for cardiovascular disease, long-term consequences of iron deficiency anemia, and early life developmental origins of disease focusing on biological and environmental determinants of disease. In addition, we work to understand and test interventions for a range of common health problems related to community conditions and health disparities. Educating undergraduate students, medical students, pediatric residents, fellows in developmental-behavioral pediatrics, child psychiatry, and post-doctoral research fellows is an important mission of the division. The division’s combined clinical, research, and educational efforts continue in collaboration with local and global partners, including San Diego-based community clinics, health agencies and community organizations, and vibrant academic-research partnerships locally, across the U.S., and in Chile and Mexico.

INTRODUCTION

The Division of Academic General Pediatrics, Child Development & Community Health, led by Dr. Sheila Gahagan, focuses on clinical care and medical education in General Pediatrics, Adolescent Medicine, and Developmental-Behavioral Pediatrics. The Division has several robust research programs and provides considerable health promotion in the community. Dr. Sheila Gahagan, a Developmental-Behavioral pediatrician and epidemiologist who holds the Martin T. Stein Endowed Chair in Developmental-Behavioral Pediatrics, leads the division of 22 faculty members, 8 adjunct faculty members, and 3 developmental-behavioral pediatric fellows. The Division also has 27 research and health promotion staff, over half with advanced degrees. The division’s four-fold clinical mission is to provide: 1) a medical home from birth through adolescence including for those with complex chronic conditions; 2) consultative care to promote breast feeding including for premature infants; 3) evidence-based developmental-behavioral pediatric evaluation and treatment to children from birth to 21-years old; and 4) care for adolescents with eating disorders, acute and chronic conditions, and sexual/reproductive health needs.

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FACULTY

DIVISION FAST FACTS

22 Faculty
27 Research Staff
$5.2 Million in Major Research Grants

MAJOR PLANS AND GOALS

To provide a Medical Home to a diverse panel of patients including those with chronic medical or behavioral health problems and to provide a Medical Home for medically fragile pediatric patients

To expand our comprehensive health care services to support young adults with chronic conditions in their transition to medical providers who care for adult patients

To collaborate with other clinical researchers to improve quality of care and advance medical understanding of pediatric diseases

To provide outstanding educational experiences for medical students, residents and fellows. In addition, continue collaboration with University of San Diego Department of Marriage and Family Therapy to provide therapy to our patients and families and to facilitate communication between physical and mental health providers.

Dr. Sheila Gahagan, a Developmental-Behavioral pediatrician and epidemiologist who holds the Martin T. Stein Endowed Chair in Developmental-Behavioral Pediatrics, leads the division of 22 faculty members, 8 adjunct faculty members, and 3 developmental-behavioral pediatric fellows. The Division also has 27 research and health promotion staff, over half with advanced degrees. The division’s four-fold clinical mission is to provide: 1) a medical home from birth through adolescence including for those with complex chronic conditions; 2) consultative care to promote breast feeding including for premature infants; 3) evidence-based developmental-behavioral pediatric evaluation and treatment to children from birth to 21-years old; and 4) care for adolescents with eating disorders, acute and chronic conditions, and sexual/reproductive health needs.

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CLINICAL ACTIVITIES

The General Academic Pediatrics Division is responsible for the primary health care of all children seen at the UCSD Pediatric Clinic. The Pediatric Clinic and the Adolescent Medicine Clinic are located on the Rady Children’s Hospital - San Diego (RCHSD) campus. With over 20,000 visits from children residing throughout San Diego, Riverside and Imperial Counties, the division strives to provide all patients with a medical home that is accessible, continuous, comprehensive, culturally effective, compassionate, and family-centered.

Pediatric clinical services include: primary care and sports physicals, immunizations, assessment for behavioral problems, learning difficulties and eating disorders; pregnancy prevention/family planning, domestic/interventional violence; STD/HIV testing and counseling; evaluation and intervention with drug/alcohol problems, depression/ suicide interventions; and referrals to specialists and community services. Our newest clinical program is a Pediatric Travel Clinic, the only one in San Diego County. The Adolescent Medicine health care team recognizes that adolescence is a special time associated with particular physical and mental health concerns, requiring specially-trained professionals. The faculty in the Adolescent Medicine Program are board certified in adolescent medicine and distinguished by their specialty interest and training. In the Adolescent Medicine Clinic, specialists in Adolescent Medicine provide health care maintenance, contraception, illness care, and behavioral health counseling. At Rady Children’s Hospital, Inpatient Medical Behavior/Eating Disorders Unit (MBU), Adolescent Medicine physicians collaborate with the UCSD Division of Child and Adolescent Psychiatry and the UCSD Eating Disorders Center for Treatment and Research. They offer a range of treatment options for teens and adults with Anorexia Nervosa and Bulimia Nervosa. Each individual receives a comprehensive evaluation that determines their individualized treatment plan. The physicians on the MBU have unique training in the medical management of teenagers and young adults with eating disorders requiring hospitalization. Following hospitalization, these patients can be followed medically in the Adolescent Medicine Clinic.

Adam L. Braddock, MD
• Attending in UCSD pediatric clinic, developmental behavioral pediatrics clinic, Down syndrome clinic and San Ysidro Health Center development-behavioral pediatrics clinic
• Volunteer physician, International Health Collective

Eyla Boies, MD
• Attends in the UCSD General Academic Pediatrics Office

Lori Wan, MD
• Director, UCSD Internal Medicine-Pediatrics Residency Program
• Attends in the General Academic Pediatrics Clinic
• Attends in the General Internal Medicine Clinic

TEACHING ACTIVITIES

for Pediatric Resident Rotation/Director of the Continuity Clinic Program
• Coordinator of Continuity Clinic Educational Curriculum

Maya Kumar, MD
• Clinical teaching for medical students in outpatient adolescent primary care
• Clinical teaching for residents in the care of medically fragile eating disorder inpatients
• Regular didactic teaching in adolescent medicine for medical students and residents (Academic General Pediatrics morning and UCSD Noon conferences, RCHSD Morning Report)
• Lecture – “Medical complications of eating disorders”
• UCSD Psychology 134 course
• Develops adolescent medicine online teaching modules for residents’ continuity clinic

Karen S. Lopez, MD
• Board Certified Adolescent Medicine
• Coordinates Adolescent Medicine MS-4 elective
• Provides introductory lecture in Adolescent Health for Pediatrics during MS-4 core rotation
• Medical student Independent Study Project Chair and Medicine advisor (UCSD School of Medicine Faculty for Problem-Based Learning)
• Pediatric resident Clinical Pathology Case lecture supervisor

Bretten D. Pickering, MD
• Teaches “Pediatric primary care of medically fragile children” to medical students and residents
• Participates in the 2nd year Medical Student “Introduction to Clinical Medicine” course
• Faculty supervisor, UCSD School of Medicine MSTP Objective Structured Clinical Examination
• UCSD Physician Assessment and Clinical Education Program, Pediatric Coordinator
• Pediatric resident Clinical Pathology Case lecture supervisor

Lori Wan, MD
• Program Director - UCSD Internal Medicine-Pediatrics Residency
• Teaches clinical pediatrics and internal medicine to residents.
• Faculty supervisor, Internal Medicine-Pediatrics residents
• Faculty supervisor, UCSD School of Medicine MSTP Objective Structured Clinical Examination
• Faculty facilitator/small group leader, UCSD School of Medicine “Interprofessional Team Training” – 3rd -year medical students
• Facilitator/small group leader, UCSD School of Medicine “How to present a History and Physical Examination” - 3rd -year medical students
**Lori Wan, MD, continued**
- Faculty facilitator/small group leader, “Principle to Practice” course for 4th-year medical students
- Assistant Dean for Diversity and Community Partnerships
- Focus on teaching culturally competent pediatric health care
- Teaches clinical pediatrics to medical students, residents and continuity residents
- Course director - UCSD Program in Medical Education - Health Equity

**Eyla Boies, MD**
- Actively involved in breastfeeding clinical research. Dr. Boies works with a board certified lactation consultant to provide nutritional, medical, and lactation follow-up for recently discharged preterm infants and their mothers in the Premature Infant Nutrition Clinic (PINC). Almost 800 infants have been seen in the PINC since opening almost eight years ago. She studies outcomes of infants and mothers seen in PINC through research on Quality Improvement approved by the UCSD Human Research Protections Program.
- Co-investigator on a community research study of knowledge, skill and attitudes of physicians related to provision of breast milk to former premature infants after hospital discharge.
- Principal investigator - Research to better understand parents’ decisions regarding childhood immunizations, “Factors Influencing Parental Childhood Vaccination Decisions: A Social Ecological Perspective” and an AAP sponsored HPV Vaccine Education and Promotion Grant to improve parental acceptance of the HPV vaccine.

**Leah Kern, MD**
- Principal Investigator - UCSD Pediatric Universal Liped Screening Quality Improvement Project, a project to evaluate the impact of a QI initiative on lipid screening among 9-11 year olds.

**Maya Kumar, MD**
- Participates in research on the medical management of eating disorders in an inpatient setting including patients with a history of overweight or obesity. She has presented her work at international meetings.
- Co-investigator on quality improvement project to improve HPV vaccine promotion among general pediatrics in Southern California.
- Contributor to case reports discussing challenging cases in adolescent medicine

**RESEARCH ACTIVITIES**

**Academic-Community Pilot Funding Program**
"Premature Infant Nutrition Post-discharge Collaborative Project"

**PUBLICATIONS**


**AWARDS & HONORS**

- Adam L. Braddock, MD
  - Advocacy Training Scholarship, American Academy of Pediatrics, 2014
- Eyla Boies, MD
  - UCSD Academy of Clinicin Scholars
  - Board of Directors, Academy of Breastfeeding Medicine
  - Board of Directors, San Diego County Breastfeeding Coalition

**RESEARCH SUPPORT**

Nancy Graff, MD
- 2012 $100,000 American Academy of Pediatrics Community Pediatrics Training Initiative “Advocacy Training Grant”

Eyla Boies, MD
- 03/15/2012 – 03/15/2013 $15,500 UCSD Clinical and Translational Research Institute

- Course director SOMI 235 Influences on Health: From Genes to Communities
- Course director SOMI 234 Beyond the Bench and Bedside: Partnering with Communities
- Course director SOMI 235 Healthy Minds, Healthy Bodies: Cognitive and Social Cognitive Strategies
- Course director SOMI 230 DOC for a Day
- Small group leader for 4th year Medical Student course “Principles to Practice”

- • Women Who Mean Business Award: San Diego Business Journal - 2014
- • AMIA Local Golden Apple Award (Education and Advocacy) - 2014

**CLINICAL ACTIVITIES**

Sheila Gabaghan, MD, MPH
- Provides developmental-behavioral pediatric services in Developmental-Behavioral Pediatric consultation clinic, Fetal Alcohol Syndrome Clinic, Down Syndrome Clinic
- Consults nationally and internationally on developmental-behavioral pediatrics

- Yi Hui Liu, MD, MPH
- Administers Developmental-Behavioral Pediatric services
- Provides developmental-behavioral pediatric services in Developmental-Behavioral Pediatric consultation clinic
- Provides care and consultation for children with developmental disabilities through San Diego Regional Center
- Oversees education for medical students, residents and Developmental-Behavioral Pediatric and Child Psychiatry fellows

Martin T. Stein, MD
- Provides developmental-behavioral pediatric clinical services in consultation clinic

**DEVELOPMENTAL-BEHAVIORAL PEDIATRICS**

In 2015, Developmental-Behavioral Pediatrics (DBP) moved its consultation services to a beautiful clinic at 7910 Frost Street, and increased its patient volume and days of clinic coverage. In addition, DBP provides care for children at Rady Children’s Hospital-San Diego (RCHSD) Autism Discovery Institute, the San Diego Regional Center, and San Ysidro Health Centers. We provide multidisciplinary clinical services at the Fetal Alcohol Spectrum Disorders Clinic and the Down Syndrome Clinic. Developmental-Behavioral Pediatrics provides education for pediatric and internal medicine/pediatric residents during their RRC-required DBP one-month block rotation. In addition, medical students rotate through DBP during their core pediatric clerkship and may take a clinical elective in DBP during their fourth year. We provide didactic teaching during the core curriculum for medical students and residents. The three-year ACGME- accredited DBP fellowship began July 1, 2011 and has graduated 3 fellows. The program consists of one intensive clinical year and two years focusing primarily on research and scholarly preparation for an academic career. Our fellowship program was awarded the highly competitive HRSA, Maternal Child Health Bureau grant for “Leadership in Education in Developmental-Behavioral Pediatrics” (07/01/2013 - 06/30/2018). Our program has a strong focus on DBP in health disparity populations with specific emphasis on the U.S. Mexico border population and military families. Our goal is to train the next generation of leaders in our field.

**RESEARCH ACTIVITIES**


CENTER FOR COMMUNITY HEALTH

The focus of The Center for Community Health is on health disparities in children and youth, their families and the communities in which they live. Our work includes clinical, epidemiological and community-based research and local health promotion projects. We have funding from the National Institutes of Health, American Heart Association, San Diego County Health and Human Services Agency Centers for Disease Control and Prevention, The San Diego County Health and Human Services Agency, The Network for a Healthy California Foundation and other foundations, totaling $2,203,608 over the last two years (including total awards for grants in which we are the PI). In 2013 - 2015, our areas of focus included childhood obesity and later health outcomes, effects of infant nutrition on health and development, health promotion.

Dr. Rhee is a pediatric hospitalist with special interest in childhood obesity and weight-related disorders. Specifically, she conducts research on the behavioral and metabolic factors contributing to the development and management of childhood obesity. Her work focuses on identifying novel targets for obesity prevention and treatment including, parenting styles, parent feeding behaviors, child eating behaviors, executive functioning, genetic and epigenetic influences, and gut peptides and the microbiome. (Total Dollar amount of funding - $1,200,501)

Clinical Activities

Teaching Activities

Sandra Daley, MD
• Primary Investigator of the Health Care Opportunities Program and the Hispanic Center of Excellence.
• Educational activities include: recruitment and retention of students and faculty from disadvantaged groups; establishing partnerships with community groups and schools of higher education; teaching and mentoring students, fellows and junior faculty; and designing and implementing academic enrichment and research training programs for post-baccalaurate, community college, middle and high school academic enrichment and research methodology training programs.
• Supervises medical students Independent Study Projects (ISP).
• Program advisor for the Healthcare Opportunities Preparation Empowerment Program (HOPES), UCSD Diversity Coalition, and the School of Public Health course, Special Topics in Health Disparities.
• Leads monthly research working group meetings for the fellows.
• Mentor and supervisor in the UCSD Faculty Mentor Program.
• Attending physician for 2 blocks per year.
• Teaches in the pediatric hospitalist medicine curriculum to medical students.
• Teaches continuity clinic residents in General Pediatrics.
• Challenges in pediatrics pediatrician medicine curriculum to pediatric residents.
• Leads monthly research working group meetings for the fellows.
• Mentor and supervisor in the UCSD Faculty Mentor Program.
• Attending physician for 2 blocks per year.
• Teaches in the pediatric hospitalist medicine curriculum to medical students.
• Teaches continuity clinic residents in General Pediatrics.

Research Activities

Sandra Daley, MD
• Recruitment, development, enrichment, & retention program for Hispanic students and faculty.
• Mentoring for junior faculty and junior faculty in research.
• Promoting factors to increase qualified disadvantaged students entering the pipeline to become part of the local healthcare workforce.
• Understanding and addressing SES, racial and ethnic disparities related to training health professionals.

Patricia East, PhD
• Family- and individual-level factors that contribute to how young women’s patterns of prenatal care can affect teenage parenting (this is the only longitudinal study in the country to focus on sibling’s risk of adolescent pregnancy and to examine family adaptation to adolescent transition to parenting).
• Risk factors for sexual and dating violence victimization.
• The link between early parenthood and new onset obesity.
• The long-term effects of iron deficiency and iron-deficiency anemia in infancy for impact in middle childhood and adolescence.
• The temporal precedence between childhood motor and obesity skills.
• Effects of somali refugee mothers’ past trauma on their children’s health.

Sheila Gahagan, MD, MPH
• Research is aimed at understanding health disparities in child growth and development.

Howard Taras, MD
• Provides medical consultation to school districts, public and private, across southern California, with a concentration in San Diego County. This includes evaluating student’s health care needs, establishing school health care plans, and supervising select school nursing services.
• Provides medical consultation to school districts, public and private, across southern California, with a concentration in San Diego County. This includes evaluating student’s health care needs, establishing school health care plans, and supervising select school nursing services.

Teaching Activities

Sandra Daley, MD
• Provides medical consultation to school districts, public and private, across southern California, with a concentration in San Diego County. This includes evaluating student’s health care needs, establishing school health care plans, and supervising select school nursing services.

RESEARCH ACTIVITIES


RESEARCH SUPPORT

**Kyung Rhee, MD, MA, MSc, continued**
Department of Pediatrics, UCSD (Co-PI)  1/1/14 – 12/31/15
"Preventing Emotional Eating RouTEENS (PEER): Obesity treatment for adolescent females who emotionally eat and their mothers"

Howard Taras, MD
1UL1 RR031980-01  July 2010-Mar. 2015
$36,586,707 NIH Natl Ctr Research Resources, San Diego CTRI

1 U01 AA019879-01  Sept. 2010-Aug. 2015
$10,545,402
NIH (NIAAA), Collaboration to Establish the Prevalence of FASD in San Diego, CA

CDEN-1366-04819  April 2014 – October 2015
$8,998,453
PCORI, "Patient-Centered Scalable National Network for Effectiveness Research"

County of San Diego  July 2008 to June 2017
$235,000 "Dental Health Initiative; to educate child health professionals on oral health promotion"

UL1TR0011442-01  August 2015 to March 2020
$7,963,176 San Diego Clinical & Translational Research Institute (CTRI)

AWARDS & HONORS

• Sheila Gahagan, MD, MPH
Academic Senate Research & Travel Award, University of California, San Diego, UCSD 2013, 2014, 2015

• Kyung Rhee, MD, MA, MSc
Academic Pediatric Association Research Award for Best Abstract by a Student (Mentor), Pediatric Academic Society Meeting 2015
Allergy, Immunology & Rheumatology
INTRODUCTION
The Division of Allergy, Immunology, and Rheumatology provides comprehensive clinical services for children with allergic, immunologic, rheumatologic diseases, and Kawasaki disease in outpatient and inpatient settings at a variety of venues throughout San Diego County. The division also maintains an internationally recognized research program in the areas of translational and clinical research in autoinflammatory disorders, genetics of rare inherited diseases, Kawasaki disease, food allergy, eosinophilic esophagitis, and basic research in T cell immunology and is currently building clinical research programs in pediatric rheumatology, severe asthma, and immunodeficiency.

DIVISION FAST FACTS
45 years of serving San Diego County
$1.9 Million in Major Research Grants
Internationally Recognized Research Programs

MAJOR PLANS AND GOALS
To continue to provide cutting edge and compassionate care to patients with allergic, immunologic, and rheumatologic diseases as well as comprehensive and balanced clinical advice to pediatricians and specialists. We plan to expand our outreach to outlying underserved areas by taking advantage of telemedicine.

To continue our tradition of outstanding translational research involving rare pediatric immune and inflammatory diseases including autoinflammatory diseases, Kawasaki's disease, eosinophilic esophagitis, and immunodeficiency while building stronger collaborations with academic and industrial researchers

We aim to expand our clinical research programs in food allergy, severe asthma, immunodeficiency, and pediatric rheumatologic diseases while building our basic immunology research program

To provide exceptional educational experiences for fellows, residents, medical students, and allied health providers. We also plan to expand our effort at community education about prevention and treatment of allergic, immunologic, rheumatologic diseases

CLINICAL ACTIVITIES
The Allergy Immunology Program was founded by Dr. Robert Hamburger, emeritus professor in the 1970s and was led by Dr. John Bastian for more than 20 years. Currently, the division has 7 physicians, 2 nurse practitioners, and a nurse specialist. The division has subspecialty clinics in immunodeficiency, recurrent fever, eosinophilic esophagitis, food allergy, and severe asthma. In 2014 we joined forces with a well-respected private practice, the Allergy and Asthma Medical Group (AAMG) and added 3 affiliate physicians. Patients are seen at the main office at Rady Children’s, and at satellite offices in Encinitas, Escondido, Oceanside and Murrieta.

The Pediatric Rheumatology Program began in 1994 by Dr. Ilona Szer with the establishment of a multidisciplinary team trained to care for children with a wide variety of rheumatic diseases, including arthritis, vasculitic diseases, and other autoimmune conditions. In addition to four experienced physicians, the division includes 3 pediatric rheumatology nurses, a pediatric physical and occupational therapist, and a social worker. Patients are seen at the main office at Rady Children’s, and at satellite offices in Encinitas, Escondido, Oceanside and Murrieta.
The Kawasaki Disease (KD) Research Center was formed in 1991 by Dr. Jane Burns and is devoted to the study and treatment of patients with Kawasaki disease. It is a one-of-a-kind Center for Research and Care for over 1,500 children who have recovered from Kawasaki disease, providing 24/7 clinical coverage for KD patients and cutting-edge research in the field. The Imaging and Immunology clinics at the Allergy Asthma Medical Group in Murrieta and Rady Children’s Hospital-San Diego (RCHSD) and provides inpatient consultation.

**Lori Broderick, MD, PhD**
- Directs a pediatric recurrent fever clinic specializing in the evaluation, treatment and research of patients with autoimmune inflammatory and non-infectious recurrent fever disorders, evaluating nearly 50 new patients per year with these rare conditions.
- Teaches medical students, Internal Medicine and Pediatric residents, UCSD medical students in Immunology clinic at Rady Children’s Hospital and provides inpatient consultation.
- Conducts immunology and allergy clinics in Encinitas and at RCHSD and provides inpatient consultation.
- Participates in Recurrent Fever clinic.

**Johanna Chang, MD**
- Conducts pediatric rheumatology clinics at Rady Children’s Hospital.
- Provides inpatient consultations.
- Teaches UCSD Pre-Med Undergraduate students on elements of clinical research as well as topics in allergy and immunology.

**Robert M. Sheets, MD**
- Teaches UCSD medical students in “Principles to Practice” course.
- Teaches UCSD residents rotating in outpatient clinics and on inpatient rotations, and provides formal didactic lectures given at noon conference and other teaching conferences.
- Teaches adult rheumatology fellows from UCSD and Scripps the fundamentals of pediatric rheumatology.

**Peter Chira, MD**
- Teaches allergy fellows from UCSD and Scripps Clinic.
- Teaches pediatric residents and medical students in allergy and immunology.

**Suhas Radhakrishna, MD**
- Teaches pediatric residents and medical students in allergy and immunology.
- Conducts several community outreach and education lectures for families of children with food allergy, sponsored by the non-profit Food Allergy Research and Education (FARE).
- Teaches securely regular at resident conferences.

**Chisato Shimizu, MD**
- Teaches securely undergraduate and medical students in the laboratory in projects related to molecular pathways of Kawasaki disease.

**TEACHING ACTIVITIES**

**Lori Broderick, MD, PhD**
- Teaches UCSD and Scripps rheumatology fellows, UCSD medical students and pediatric Residents, UCSD medical students in rheumatology.
- Teaches, supervises and mentors allergy/immunology fellows.
- Conducts General Pediatric Allergy & Immunology clinics at RCHSD and Combined Adult and Pediatric Allergy & Immunology clinics at the Allergy Asthma Medical Group.
- Conducts allergy clinics at Rady Children’s Hospital.
- Provides inpatient consultations.
- Teaches UCSD medical students in “Principles to Practice” course.
- Teaches UCSD residents rotating in outpatient clinics and on inpatient rotations, and provides formal didactic lectures given at noon conference and other teaching conferences.
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- Teaches securely regular at resident conferences.

**Chisato Shimizu, MD**
- Teaches securely undergraduate and medical students in the laboratory in projects related to molecular pathways of Kawasaki disease.
In addition to Dr. Burns, Dr. Chiasso Shimizu and Dr. Alessandra Franco lead research groups within the Center. Dr. Adriana Tremblay, from the Division of Host-Microbe Systems & Therapeutics serves as Associate Director of the KD Research Program.

The Basic Immunology program is led by Dr. Alessandra Franco and specializes in T cell biology, T cell cloning, therapeutic vaccines and glycopeptidites. Dr. Franco provides her expertise to numerous collaborators on campus.

Seema S. Acrez, MD, PhD
• NIH funded study (R01) on the mechanisms of tissue remodeling in eosinophilic esophagitis (EoE) (the role of pro-inflammatory and pro-angiogenic molecules), diagnosis (biomarker discovery), and treatment options and their effects on disease complications such as esophageal remodeling
• Research on novel agents to alter esophageal remodeling Studies of the role of novel cells such as innate lymphocytes in EoE pathogenesis Site Principal Investigator, Consortium for Eosinophilic Gastrointestinal Researchers (CEGIRS), an NIH funded multicenter consortium Program Leader, Pilot Projects, CEGIRS
• Executive Council member, The International Gastrointestinal Eosinophil Research network
• Editorial Board of Journal of Allergy and Clinical Immunology

Lori Broderick, MD, PhD
• Established the San Diego Food Allergy Registry to collect epidemiologic, laboratory and genetic data that will allow for investigations in numerous human diseases using a number of experimental models, including in vitro cell lines, ex vivo monocytes and genetically modified mice in collaboration with a variety of UCSD investigators including in vitro human studies
• Collaborates with PIs at UCSD to validate in vivo murine models with in vitro human studies

Jane C. Burns, MD
• The pathophysiology, immunology, diagnosis, etiology, treatment, genetics, epidemiology and history of Kawasaki disease
• A two-center Phase IIIb trial of acetylsalicylic acid for primary treatment of Kawasaki disease patients with early coronary artery abnormalities
• A two-center Phase IIIb trial of anakinra for primary treatment of Kawasaki disease patients with early coronary artery abnormalities
• Longitudinal study of adolescents and young adults with a history of Kawasaki disease in childhood

Johanna Chang, MD
• Pediatric musculoskeletal ultrasound
• Principle investigator for CARRA Registry – multicenter observational study of pediatric rheumatologic disease
• A two-center Phase IIIa trial of alefacept for primary treatment of Kawasaki disease patients with early coronary artery abnormalities
• A longitudinal study of adolescents and young adults with a history of Kawasaki disease in childhood

Peter Chirco, MD
• Co-investigator for a number of CARRA (Childhood Arthritis and Rheumatology Research Alliance) studies
• Site investigator for Industry-sponsored Clinical Trials (Pfizer, Janssen).
• Transition of youth with special health care needs, with emphasis on patients with pediatric rheumatic diseases.

Alessandra M. Franco, MD, PhD
• Human basic and translational immunology with a specific interest in T cell biology studying T cell differentiation and functions ex vivo in T cell-mediated human diseases
• T cell recognition for vaccine development and immunotherapy
• Human T cell cloning from peripheral blood and inflammatory infiltrants in Tissues
• Designer glycopeptidites containing pan-carcinoma TACA To}

tailed to bind with high affinity multiple HLA class I alleles (su-
per-types) to treat a large population by expanding in vivo CD8+ cytotytic T cells that recognize the TACA antigen
• Established reliable techniques for the secondary end-points in Clinical trials by tracking innate and adaptive immune cells before and after therapy in KD patients
• Collaborates with PIs at UCSD to validate in vivo murine models with in vitro human studies

Bob Gong, MD
• Primary Site Investigator for two Phase III Clinical Trials on the use of 16% Subcutaneous Immunoglobulin replacement therapies for Primary Immunodeficiency Syndromes
• Primary Site Investigator for Clinical Trials on the use of Mepolizumab (anti-IL5 monoclonal antibody) for the treatment of severe persistent asthma in 6-12 year olds (Phase IIb) and in patients 12 and above (Phase IIIb/IV)
• Primary Site Investigator for Phase III Clinical Trial on the use of novel oral CCR5 antagonist for moderate to severe persistent asthma above 12 years of age
• Primary Investigator for retrospective study of outpatient Penicillin Allergy SkinTesting at Rady’s Allergy & Immunology specialty clinic over the past 5 years to identify sensitivity and specificity of current skin testing procedure
• Primary Investigator for retrospective study on the comparison between intravenous immunoglobulin replacement and subcutaneous immunoglobulin replacement for primary immunodeficiency patients.
• Member and Investigator of the UCSF Airway Disease Research Center (ADRC)

Hal M. Hoffman, MD
• Role of innate immunity and targeted therapy of autoinflammatory disorders in collaboration with international investigators and industry
• Characterization of NLRP3 inflammasome function and its role in numerous human diseases using a number of experimental models, including in vivo murine models, ex vivo monocytes and genetically modified mice in collaboration with a variety of UCSD investigators including in vitro human studies
• Genetic basis of rare inherited disorders including rare urticarial, immunodeficiency, and autoinflammatory disorders

Sydney Leibel, MD
• University of Waterloo Seed Grant looking at Perspectives of Children with Food Allergies
• Interests in Social Determinants of Health and role in atopic diseases including food allergies and asthma

Stephanie Leonard, MD
• Site Principle Investigator for clinical trials investigating oral and epitope-specific immunotherapy for peanut and milk allergies in children.
• Established the San Diego Food Allergy Registry to collect epidemiologic, laboratory and genetic data that will allow for investigations into factors affecting the development and natural history of food allergy.
• Conducting clinical research to investigate cross-reactivity among fish species and evaluate if fish-allergic patients may be able to tolerate certain fish species while avoiding others.

Suhas Radhakrishna, MD
• Co-investigator on PRONG clinical trials and CARRA registry
• Interest in genetic basis of familial autoimmune and auto-inflammatory disorders

Robert M. Sheets, MD
• Clinical trials of new treatments for pediatric rheumatologic diseases as part of the Pediatric Rheumatology group
• Randomized clinical trial of cyclosporine versus low-dose meth
Critical Care & Anesthesia
The Division of Critical Care is responsible for the Pediatric Intensive Care Unit (PICU) at Rady Children’s Hospital-San Diego (RCHSD), a 24-bed unit that admits approximately 1,200 patients per year. The PICU multidisciplinary team is led by one of eight attending pediatric critical care physicians. This team is responsible for the care of all patients in the intensive care unit, working closely with physicians from other specialty and subspecialty disciplines to assure excellent care. The PICU and its staff are an essential component of many programs at RCHSD, including the Regional Pediatric Trauma Center and the pediatric transport program. Dr. Susan Duthie is the Medical Director of the PICU and Sandeep Khanna is the Clinical Director.

The Division of Anesthesia provides anesthesia services for 22,500 inpatient and outpatient procedures per year. The operating rooms consistently score in the top five percent of children’s hospitals in operating room efficiency and utilization, as well as on-time starts. This has been achieved through the creative scheduling of Dr. Alvin Faierman, Director of Perioperative Scheduling, and via collaboration with Dr. Andy Zimmerman, Chief of Anesthesia (Note: Previous Chief of Anesthesia was Clay Stanley, MD). Acute Pain Service is headed by Dr. George Ulma, and provides services to approximately 2,500 patients annually.

MAJOR PLANS AND GOALS

• To invite fellows to participate in the Multidisciplinary Critical Care Knowledge Assessment Program (MCCKAP) examination, a national test of core Critical Care knowledge
• To provide support for new programs, such as Cardiac Transplant, with minimal interruption in operating room efficiency and scheduling
• To provide Acute Pain Services to our inpatients using multi-modal resources
• To support research by critical care attendings and fellows:
  • Encourage all critical care fellows to identify and submit a research project to the IRB by the end of their first year of training
  • Improve the number of fellow research projects submitted for presentation at a national meeting
• To improve national recognition for the Critical Care Program:
  • Increase the program’s presence at national meetings through committee involvement, speaking and participation
The Division of Anesthesia provides anesthetics for patients in the 16-room Acute Care Pavilion Operating Room Suites, a procedure room in the Outpatient Procedure Center, the Sharp and Children’s Hospital-San Diego MRI Center, the Cardiac Catheterization lab, 2 CT scanners, hematology-oncology procedure center, and to those receiving special procedures that must be performed at Sharp Memorial Hospital. The Division provides services for all major surgical procedures including congenital heart surgery, major orthopedic surgery, trauma, and organ transplants.

Dr. George Ulma is the Medical Director of the Acute Pain Service, which provides consultation for post-operative and oncology patients. The Division presents an annual pain conference at RCHSD, in addition to the ongoing pain resource course.

A multidisciplinary team led by the attending critical care physician treats critical care patients in the PICU. This team includes nursing, respiratory therapy, pharmacology, social work, child life, the case manager and chaplaincy. Nutrition support, occupational therapy, physical therapy and speech therapy also join the multidisciplinary team when needed. The medical team in the PICU includes the attending physician, critical care fellows, critical care nurse practitioners and resident physicians. The PICU is a closed unit, which means that the critical care medical team coordinates care given by all medical and surgical sub-specialists, and is ultimately responsible for the care each patient receives in the PICU. In addition, the medical team is responsible for the care of patients located outside of the PICU that are still on the PICU service. This may include trauma patients, as well as patients who have been transferred from the PICU to other areas of the hospital.

A critical care facility member leads daily bedside patient care rounds. These rounds consist of an in-depth review of all pertinent radiological tests, laboratory data, and clinical data and all medical and surgical consulting opinions. A plan of care for the day is determined during rounds. In addition, the critical care facility members provide consultations on patients in other care areas when requested, and attend trauma activations as integral members of the trauma team.

The PICU participates in an international program (VPS) that reviews observed and predicted (based on severity of illness scores, PRISM) morbidity and mortality, as well as other care indicators major PICUs across the country and internationally. The PICU is consistently ranked in the top few programs for observed predicted mortality rates.

Each Anesthesia attending is responsible for teaching Anesthesia residents from UCSD and Navy Medical Center, San Diego. In addition, the Division trains respiratory therapists, emergency medical technicians, medical students, emergency medicine fellows, and pediatric residents, in airway management.

In the Critical Care Division, each faculty member is responsible for teaching critical care fellows, nurse practitioners, residents and non-physician staff while on the clinical service in the PICU. Teaching may take place during resuscitation and use of simulation in critical care.

Michael Worthen, MD research interests include liver disease in Fontan patients and other congenital cardiovascular topics.

PUBLICATIONS


BOOK CHAPTERS


PRESENTATION ABSTRACTS


Dermatology
INTRODUCTION

The Division of Pediatric and Adolescent Dermatology is one of the largest pediatric dermatology units in the United States, and is a highly respected center with a national and international reputation for clinical, research and educational excellence. The 2013-2016 academic years were very successful for the division, with significant contributions to the fields of dermatology and pediatrics in research, leadership, and advocacy, and expansion of the clinical services.

The Division exceeded 20,000 patient visits and over 1,500 surgical, laser and phototherapy procedures per year, with services in satellite clinics throughout San Diego County, including Oceanside, Murrieta, Encinitas and Escondido. The research program broadened its research in inflammatory skin disease (including eczema, psoriasis and acne), genetic skin disorders, hemangiomas, skin tumors, and procedural dermatology. Division members have held significant senior national leadership positions, including Dr. Sheila Friedlander as a Board of Director member of the American Academy of Dermatology, Dr. Lawrence Eichenfield as Co-Chair of the Pediatric Dermatology Research Alliance (PDRRA), and Dr. Wynnis Tom as Head of the PDRRA Inflammatory Skin Disease Research Group as well as Director of the PDRRA Annual Research Meetings. In addition, Dr. Victoria Barrio is leading a multi-institutional study on facial hemangiomas and their syndromic risks. Dr. Magdalene Dohil has lectured internationally, including the New Zealand Dermatology Society Meeting.

Dr. Catalina Matiz joined the faculty, bringing her expertise as one of the few national experts in pediatric contact allergy. The Scar Treatment and Revision (STAR) Program has performed cutting edge research with new laser technologies for the treatment of pediatric scars, including traumatic, post-surgical, birthmark-associated and burn scars. This work is leading to transformative practices in the management of functionally significant and deforming scars.

The Vascular Lesion and Birthmark Center maintains its reputation as a regional and national resource for the evaluation, management and study of hemangiomas, vascular malformations, pigmented and other cutaneous birthmarks. The Center's services include multidisciplinary clinics with experts in dermatology, plastic surgery, diagnostic and interventional radiology, otorhinolaryngology, pathology, ophthalmology and orthopedics. A dermatology-ophthalmology expert has also joined the center, as medical therapies are becoming therapeutic options with the marked rise in discovery of genes underlying these lesions.

The division's diverse faculty members also specialize in procedural dermatology, cutaneous infections, genetic diseases, nevi (moles) and skin cancer, as well as initiatives for disease prevention and to improve skin health over a lifetime. In addition, the Division is pleased to include three physician assistants in the practice.

The Division is developing a Rare Skin Disease Program, highlighting utilization of state of the art techniques in the diagnosis and research of genetic skin conditions, including epidermolysis bullosa, ichthyoses, and mosaic disorders, with hope of contributing to targeted therapies.

MAJOR PLANS AND GOALS

Center Development Eczema and Inflammatory Skin Disease Center:
• The Center is continuing to innovate new methods for educating patients, families, physicians and other health care workers, including evolving web-based learning modules, videos, and "web 2.0 and 3.0." The research program includes significant genomics initiatives such as the NIH-sponsored research on psoriasis of Dr. Wynnis Tom, as well as the study of disease impact and comorbidities in inflammatory skin diseases including atopic dermatitis and acne. The Center is also a leader in the development of a pediatric dermatology collaborative research group PEDRA (Pediatric Dermatology Research Alliance) for the study of inflammatory skin disease and comparative effectiveness studies. Dr. Tom is leading a multi-center study of systemic therapy for atopic dermatitis, utilizing web-based collaborative data entry as well as patient-oriented outcome measures.
• The Vascular Lesion and Birthmark Center is expanding its services, which includes the multi-disciplinary vascular lesion clinic and collaborative clinics with plastic surgery for the evaluation and management of congenital and acquired skin anomalies. The Center was recently named a Sturge-Weber Foundation Center of Excellence, reflecting the expertise in management of port-wine stains and associated syndromes, as well as complex vascular malformations. The laser program expansion continues, with the addition of new laser technology for refractory blood vessel birthmarks. The Center is a leader in utilizing new fractionated laser devices for the treatment of surgical and traumatic scars in children, in collaboration with Naval Medical Center dermatologist-laser surgeons. This new program has the potential to live the lives of thousands of children, minimizing the physical and psychosocial impact and effects of trauma and disfigurement. The division is exploring the development of a Pediatric Photomedicine and Laser Center, dedicated to research and clinical care utilizing lasers and light-based therapies.

Faculty Development:
• The recruitment of two to three faculty members is planned for the next four-year period. A national search is underway for pediatric dermatologists with interests and expertise in laser and procedural dermatology, as well as physician-scientists and clinical experts in pediatric dermatology.

PHOTOGRAPHY

Photos not available: Catalina Matiz, MD (Assistant Clinical Professor) and Susan Boiko, MD (Associate Clinical Professor, Voluntary)

PRACTITIONERS

Andrew C. Krakowski, MD
Assistant Clinical Professor of Pediatrics and Medicine

Wynnia L. Tom, MD
Professor of Clinical Pediatrics and Medicine

Richard L. Gallo, MD, PHD
Associate Professor of Clinical Pediatrics and Medicine

Eliza Barrett, PA-C
Stephanie Link, PA-C
Briannre Wageman, PA-C

Eliza Barrett, PA-C
Stephanie Link, PA-C
Briannre Wageman, PA-C

ELIZABETH BARRETT, PA-C
STEPHANIE LINK, PA-C
BRIANNE WAGEMAN, PA-C

Victoria R. Barrio, MD
Associate Professor of Clinical Pediatrics and Medicine

ELIZABETH BARRETT, PA-C
STEPHANIE LINK, PA-C
BRIANNE WAGEMAN, PA-C

FELLOWS

Luhiash Alamobubarak, MD (Clinical)
John Akhawala, MD (Research)
Carol Cheng, MD (Clinical)
Nancy Cheng, MD (Clinical)
Pamela Gangar, MD (Research)
Emily Oster, MD (Research)
Brenda Simpson, MD (Clinical)
Jessika Valderamma, MD (Clinical)

LUHIASH ALAMOBUBAKAR, MD (CLINICAL)
JOHN AKHAWALA, MD (RESEARCH)
CAROL CHENG, MD (CLINICAL)
nancy cheng, MD (CLINICAL)
PAMELA GANGAR, MD (RESEARCH)
EMILY OSTER, MD (RESEARCH)
BRENDA SIMPSON, MD (CLINICAL)
JESSIKA VALDERAMMA, MD (CLINICAL)
Rehabilitation

The Division continued to be a leader in inflammatory skin disease research, including studying the best intensive education techniques to improve clinical outcomes, and the initiation of standardized "train the trainers" atopic dermatitis education, to improve the consistency of teaching about this common, chronic disease. In addition, the Division has extensive clinical and research activities related to pediatric psoriasis and acne, ranging from NIH-supported basic science to translational and clinical intervention studies.

PUBLICATIONS


A Multicenter, Prospective, Randomized, Open-label, Intra-subject Controlled Study of the Efficacy and Safety of ABH010 for the Treatment of Stalled Chronic Cutaneous Wounds Associated with Generalized Epidermolysis Bullosa (Protocol EB01: ABH010) Shir Regenerative Medicine $34,500 Sept. 2012 – present

A randomised, multi-center, investigator-blind, vehicle- and active-controlled, phase 2 study to assess the efficacy and safety of different concentrations of CD5798 cream applied once daily in subjects with moderate to severe acne vulgaris [RD.06.SP.1823] Galderma $107,950 June 2012–present

A Phase 1, Open-Label, Multicenter Study to Evaluate the Safety, Tolerability, Pharmacodynamics, and Pharmacokinetics of Calcipotriene Foam, 0.005%, Applied Under Maximal-Use Conditions in Adolescent Subjects (Ages 12 to 16 Years) with Plaque Psoriasis (Clinical Study Protocol: STF 115756) Stiefel – GlaxoSmithKline $58,000 Feb. 2012 – present


A Phase Two Study Evaluating the Safety and Efficacy of Once Daily Use of the LEO 8018 topical suspension Containing Calcipotriol 50 mcg/g Plus Retinoid NHL 080 Leo Pharmaceutical Products Ltd. $70,279 $158,392 May 2010–Jan. 2011

A Multi-Center, Double-Blinded, Vehicle Controlled, Phase 2 Study of JNJ 10229570-AAA for the Treatment of Acne Vulgaris CA-P-20050111/Amgen $126,000 May 2012 – present


A Phase 3 Study to Evaluate the Efficacy, Safety, and Effect of Withdrawal and Retreatment With Brodalumab in Subjects With Moderate to Severe Plaque Psoriasis. [Protocol AMAGINE-1] [Protocol 20110201/Amgen $126,000 May 2012 – present

A Phase 3 Study to Evaluate the Safety and Efficacy of Brodalumab in Subjects With Moderate to Severe Plaque Psoriasis [Protocol AMAGINE-3] [Protocol 20110210/Amgen $126,000 May 2012 – present

A Randomized, Controlled, Multi-Dose, Multi-Center, Adaptive Phase II/III Study in Infantile Hemangiomas Requiring Systemic Therapy to Compare Four Regimens of Propranolol in Placebo: V0400 SB/Pierre Fabre Dermatology $59,795 $245,442 Jan. 2010–Present

Autologous Retinal Pigmented Epithelial Cells Derived from Induced Pluripotent Stem Cells for the Treatment of Atrophic Age Related Macular Degeneration SUB S-22236 CIRM/Scripps Research Institute $50,000 $80,000 Oct. 2010–Sept. 2012

Wynnis L. Tom, MD

An Open-Label, Maximal Use, Systemic Exposure Study to Assess the Safety and Pharmacokinetic Profile of AN2728 Topical Ointment, 2% in Children and Adolescents with Atopic Dermatitis [Protocol AN2728-AD-201] Anacor Pharmaceuticals $46,150 June 2013 – present

A Multi-Center Prospective, Randomized, Double-Blind, Placebo-Controlled, Phase 2 Study to Assess the Safety and Pharmacokinetic Profile of AN2728 Ointment in Adolescents with Atopic Dermatitis [AN2728-AD-202] Anacor Pharmaceuticals $56,031 May 2012 – Feb. 2013

Genetic Influence in Pediatric Psoriasis 1 K23 AR060276-01/A1/NIH (NIAMS) $122,500 $661,500 July 2011 - June 2016


Andrew Krakowski, MD

Collection of skin biopsy samples from subjects with Recessive Dystrophic Epidermolysis Bullosa for the evaluation of a new genetically modified fibroblast cell therapy product candidate Fibrocell Sciences, Inc. $13,080 Mar. 2013 – present


Sheila Fallon Friedlander, MD

Topical timolol for the treatment of infantile hemangiomas Valeant Pharmaceuticals $105,750 Mar. 2012 – present

A Randomized, Controlled, Multi-Dose, Multi-Center, Adaptive Phase II/III Study in Infants with Proliferating Infantile Hemangiomas Requiring Systemic Therapy to Compare Four Regimens of Propranolol in Placebo V0400 SB/Pierre Fabre Dermatology $59,795 $245,442 Jan. 2010–Present

Autologous Retinal Pigmented Epithelial Cells Derived from Induced Pluripotent Stem Cells for the Treatment of Atrophic Age Related Macular Degeneration SUB S-22236 CIRM/Scripps Research Institute $50,000 $80,000 Oct. 2010–Sept. 2012

Wynnis L. Tom, MD


A Phase 3 Study to Evaluate the Efficacy, Safety, and Effect of Withdrawal and Retreatment With Brodalumab in Subjects With Moderate to Severe Plaque Psoriasis. [Protocol AMAGINE-1] [Protocol 20110201/Amgen $126,000 May 2012 – present

A Phase 3 Study to Evaluate the Safety, Tolerability, and Pharmacokinetic Profile of AN2728 Ointment in Adolescents with Atopic Dermatitis [AN2728-AD-203] Anacor Pharmaceuticals $56,031 May 2012 – Feb. 2013

Genetic Influence in Pediatric Psoriasis 1 K23 AR060276-01/A1/NIH (NIAMS) $122,500 $661,500 July 2011 - June 2016


Andrew Krakowski, MD

Collection of skin biopsy samples from subjects with Recessive Dystrophic Epidermolysis Bullosa for the evaluation of a new genetically modified fibroblast cell therapy product candidate Fibrocell Sciences, Inc. $13,080 Mar. 2013 – present

Dysmorphology & Teratology
The Division of Dysmorphology and Teratology is dedicated to providing comprehensive specialized care in the diagnosis, treatment, and management of birth defects and other adverse pregnancy outcomes. Through clinical, epidemiological, and basic science research, the scientific goals of the Division are: 1) to better understand the etiology and developmental pathogenesis of birth defects and other adverse pregnancy outcomes due to environmental exposures; 2) to develop interventions and diagnostic modalities to prevent these birth defects; and 3) to educate healthcare providers the general public about teratogenic exposures.

Lad By Dr. Kenneth Lyons Jones, a pediatrician and dysmorphologist-teratologist, and Dr. Christina Chambers, a prenatal epidemiologist and teratologist, the Division of Dysmorphology and Teratology currently runs the State of California Birth Defects Monitoring Program, a long-standing public health surveillance program for birth defects that monitors 15 counties in California and is linked to a State biorepository for maternal serum samples and infant blood spots has partnered with the newly founded Rady Genomic and Systems Medicine Institute to develop a program for better understanding the genetic underpinnings of some birth defects; established a research only human MRI biorepository; and collaborated with institutions and researchers both domestically (including Boston University, Stanford University, University of Washington, University of New Mexico, Emory University, Indiana University, University of South Florida) and internationally (Canada, Australia, South Africa, Ukraine, South Korea, Poland and Mexico). In 2013-2015, the Division employed 70 clinical and research staff, had $27,760,079 in total funding, and published 36 manuscripts, 6 books chapters, and 1 book.

In 2015, the Division expanded its faculty with the addition of Miguel del Campo, MD, PhD, a medical geneticist and a leader in the fields of clinical genetics and dysmorphology. Other key additions in the last two years include Vladimiro Wertelecki, MD, Project Scientist, with expertise in medical genetics, and the research liaison for our collaboration with the Omnis-Net for Children Foundation in Ukraine. Kristin Palmsten, ScD, Assistant Project Scientist, specializing in pharmacoepidemiology and prenatal epidemiology; Dana R. Simmons, MPH, Academic Coordinator, the Institute for Fetal Alcohol Spectrum Disorders Discovery; and Jennifer Zellen, PhD, Director of Communications and Research Development. Another major development for the Division of Dysmorphology and Teratology over the past two years was the rebranding of its public-facing center, now called the Center for Better Beginnings (formally known as the Center for the Promotion of Maternal Health and Infant Development). This re-brand recognizes the important contributions to clinical, research, and service activities to non-academic and non-medical audiences. The Center continues to expand and is now one of North America’s foremost institutes for breakthrough research and education in maternal health and child development and brings together experts from all over the world to promote healthy pregnancies and prevent adverse outcomes associated with exposures during pregnancy and lactation. Through patient care, teaching, advocacy, and research, the Center serves as a trusted resource for agencies, organizations, and individuals on exposures during pregnancy and lactation. Medical and research training continues to be a priority for the Division of Dysmorphology and Teratology. Over the past two years, the Division has created a State/Epi Seminar Series and a Clinical Research Seminar Series for researchers in the Department of Pediatrics and Rady Children’s Hospital-San Diego, and has also organized and hosted an international continuing medical education course on Pregnancy and Lactation in Women with Autoimmune Diseases. Division members teach at junior high school, undergraduate, graduate, and medical students, fellows, post-doctoral students, visiting scholars, and other medical and research professionals. Additionally, the Division remains at the forefront both nationally and internationally in the field of Fetal Alcohol Spectrum Disorders (FASD), which include the award of a 4 year grant from the CDC to train pediatricians and nurses in the prevention of alcohol-exposed pregnancies; the development of a telemedicine program whereby a long-distance evaluation of a child for FASD can be conducted; the launching of nurse conducted FASD screenings, and creating the SoCal NOFAS website and a local bilingual support group for families affected by FASD.

**DIVISION FAST FACTS**

**MAJOR PLANS AND GOALS**

- Expand and solidify sustainable federal funding for teratogen counseling services in California and nationwide
- Further develop the Institute for Fetal Alcohol Spectrum Disorders Discovery to serve patients and provide sustainable services and research opportunities
- Expand the reach of Mommy’s Milk Human Milk Research Biorepository with new collaborations and national sample collections
- Establish the San Diego study of Mothers and Infants (SOMI) platform to test and generate hypotheses about genetics and environment as it relates to child health outcomes in our community.

**INPATIENT/OUTPATIENT**

The Division of Dysmorphology and Teratology has a number of clinical activities providing diagnostic services, genetic and teratogen counseling, and long-term follow-up of children with birth defects nationally and internationally. Clinics continue to be held in San Diego, CA and Tijuana, Mexico. Inpatient consultations are conducted at UCSD Medical Center (in the neonatal intensive care unit, newborn nursery and autopsy service) and at Scripps Mercy Hospital. Outpatient consultations and follow-up take place at Rady Children’s Hospital – San Diego and at Hospital del Niño de las Californias in Tijuana. Additionally, through our free teratogen information service, MotherToBaby California, the Division continues to provide information to pregnant and breastfeeding women, women planning pregnancy, fathers, family members, physicians, and other health care providers worldwide about exposures during pregnancy and lactation including but not limited to:

- Over-the-Counter Medications
- Prescription Medications
- Vitamin/Supplements
- Herbal Supplements
- Alcohol/Recreational Drugs
- Vaccinations or

- Immunizations
- Diseases or Infections
- Chemicals
- Pesticides
- Occupational
- Exposures
- Environmental
- Exposures
- Paternal Exposures

Additionally, the Division of Dysmorphology and Teratology houses the Institute for Fetal Alcohol Spectrum Disorders Discovery (IFASDD), which provides medical, counseling, screening, and intervention services to children with prenatal alcohol exposure. Services include dysmorphology exams, the Math Interactive Learning Experience (MILE) intervention program, educational support, a parent support group that meets monthly, an FASD patient registry, and a significant community outreach and education program. Nurse conducted FASD screenings are provided to high-risk populations in early intervention programs and the juvenile justice system. IFASDD works closely with the Southern California affiliate of the National Organization on Fetal Alcohol Syndrome (SoCal NOFAS) to provide support to families, increase public awareness of FASD through a speakers bureau, and promote the prevention of alcohol-exposed pregnancies.

**FACULTY**

**FELLOWS**

**CLINICAL ACTIVITIES**

**FACULTY**

- Kenneth Lyons Jones, MD, Distinguished Professor of Pediatrics Co-Director, Center for Better Beginnings, Division Chief
- Christine Chambers, PhD, MPH
- Miguel del Campo, MD, PhD
- Wladimiro Wertelecki, MD
- Diana R. Simmons, MPH
- Kristin Palmsten, ScD
- Kenneth Lyons Jones, MD
- Associate Clinical Professor of Pediatrics
- Assistant Project Scientist
- Project Scientist
- Assistant Project Scientist
- Associate Director, Clinical Translational Research Institute

**FELLOWS**

- Annika Montag, PhD
- Gretchen Bandoli, PhD

**CLINICAL ACTIVITIES**

- Expand and solidify sustainable federal funding for teratogen counseling services in California and nationwide
- Further develop the Institute for Fetal Alcohol Spectrum Disorders Discovery to serve patients and provide sustainable services and research opportunities
- Expand the reach of Mommy’s Milk Human Milk Research Biorepository with new collaborations and national sample collections
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**INPATIENT/OUTPATIENT**

The Division of Dysmorphology and Teratology has a number of clinical activities providing diagnostic services, genetic and teratogen counseling, and long-term follow-up of children with birth defects nationally and internationally.

**DIVISION FAST FACTS**

**MAJOR PLANS AND GOALS**

- Expand and solidify sustainable federal funding for teratogen counseling services in California and nationwide
- Further develop the Institute for Fetal Alcohol Spectrum Disorders Discovery to serve patients and provide sustainable services and research opportunities
- Expand the reach of Mommy’s Milk Human Milk Research Biorepository with new collaborations and national sample collections
- Establish the San Diego study of Mothers and Infants (SOMI) platform to test and generate hypotheses about genetics and environment as it relates to child health outcomes in our community.

**INPATIENT/OUTPATIENT**

The Division of Dysmorphology and Teratology has a number of clinical activities providing diagnostic services, genetic and teratogen counseling, and long-term follow-up of children with birth defects nationally and internationally.
TEACHING ACTIVITIES

The Division offers a wide range of teaching and training activities through clinical rotations, educational courses, pre- and post-doctoral training programs, Clinical Research Seminars, Stat/Epi Seminars, Journal Club, continuing medical education events, and community outreach.

Kenneth Lyons Jones, MD
Dr. Jones conducts research focused on neonatal residents, research and medical students in the UCSD neonatal intensive care unit and newborn nursery and gives didactic lectures at the UCSD School of Medicine. He has a weekly one and one-half day outpatient clinic at Rady Children’s Hospital-San Diego in which at least one UCSD Pediatric Resident performs one-fourth of his medical students may also rotate on this service on a case-by-case basis.

Christina D. Chambers, PhD, MPH
Dr. Chambers continues to teach Human Teratology, an elective course offered in the Skaggs School of Pharmacy and Pharmaceutical Sciences (SPPS 261). This course is open to pharmacy students and students in other health professions. Additionally, the course six-week elective rotations in teratology for four to eight UCSD pharmacy students. She has been a committee member for medical students as part of the ISP and continues to mentor NIH summer internship projects for medical and pharmacy students. In her role as the Associate Director of the Clinical Translational Research Institute at UCSD, Dr. Chambers teaches on the topic of reproductive epidemiology as part of the CREST program at UCSD and is in the process of developing a CREST course on reproductive epidemiology.

Epidemiology. Furthermore, she teaches in Clinical Epidemiology and Perinatal Epidemiology elective courses offered to graduate students at UCSD and conducts lectures on maternal child health in master’s level courses in the School of Public Health at San Diego State University. These lectures have focused on various obstetric and pediatric diseases, approaches to conducting research on these topics, and prevention.

Dr. Chambers has a strong history of supporting graduate students, postdoctoral fellows and junior faculty in epidemiologic methods and in career development. Over the past two years, she has been the primary mentor for 4 pre-doctoral students, 5 post-doctoral scholars, 3 K-Re research scholars, and 3 visiting scholars. Dr. Chambers has provided support for maximizing research independence, professional development, and career success through the expansion of leadership opportunities, promotion of professional visibility and fellowship opportunities.

Miguel del Campo, MD, PhD
Dr. del Campo teaches medical students and residents how to diagnose and counsel women with common pregnancy disorders. He teaches on the bedside and in the classroom. He is an expert on maternal and fetal structural development, particularly through the use of new genetic technologies; and he has had substantial involvement in establishing the safety of prenatal exposures to medications and vaccines.

RESEARCH ACTIVITIES

Through the Center for Better Beginnings, the Division of Dysmorphology and Teratology continues to conduct cutting-edge local, national and international epidemiologic, and biomedical research focused on the identification and prevention of birth defects, miscarriage, preterm birth, pre- and postnatal growth abnormalities and longer term neurodevelopmental and functional impairments. This research has been instrumental in identifying previously unrecognized human teratogens, as well as ruling out substantial risk for other medications and vaccines, and has led to changes in clinical practice and public health policy.

The specific research areas and highlights in the Division include:

1. Birth Defects Epidemiology and Prevention

In 2011, Dr. Chambers took on the PI role for a three-year contract to run the State of California Birth Defects Monitoring Program, a longstanding public health surveillance program for birth defects that monitors 15 counties in California and is linked to a State biorepository for maternal serum samples and infant blood spots. Additionally, collaborations with the CDC, SMART collaborative program to evaluate assisted reproductive technology birth outcomes in California, the Department of Medicine to evaluate a metabolomics signature in children with specific types of heart defects, and with researchers state wide to study the etiology of gastroschisis.

2. Medications and Vaccines in Pregnancy

The Division of Dysmorphology and Teratology continues to be the coordinating center for the MotherToBaby Pregnancy Studies, which consist of multiple national post-marketing surveillance studies of medication and vaccine safety in pregnancy. These studies are conducted through the Organization of Teratology Information Specialists. Our Division provides the research infrastructure that allows for proper study design, subject ascertainment, follow-up, collection of data, statistical analysis and interpretation of data. Some of these studies are done in collaboration with the American Academy of Allergy, Asthma and Immunology and Boston University as part of the Vaccines and Medications in Pregnancy Surveillance System. Our ongoing studies on medications and vaccines include:

- Medications used to treat autoimmune diseases such as ulcerative colitis, Crohn’s Disease, Rheumatoid Arthritis, Psoriasis, Psoriatic Arthritis, Ankylosing Spondylitis, and Multiple Sclerosis
- The Seasonal Flu Vaccine
- The Pertussis Vaccine
- Medications for heart disease.

3. Fetal Alcohol Spectrum Disorders

Research efforts in the area of FASDs continue to be a strong focus in the Division. Our FASD research is conducted locally, nationally and internationally, and it is linked to a State biorepository and is part of the CDC’s SMART, supported by the CDC’s and FASD, establishing an FASD Patient Research Registry; examining a variety of risk factors for FASD; cross-cultural comparisons of the dysmorphic features of children exposed to alcohol; testing intervention strategies to reduce risky alcohol consumption among women of reproductive age, and biomarker development.

For example, in 2014 the Division established a collaboration with Texas A&M University to develop a new biomarker of maternal alcohol exposures and with researchers and FASD specialist at the Child Development Center in Queensland, Australia.

4. Research Only Human Milk Biorepository

In collaboration with UCSD’s Clinical and Translational Research Institute, Rady Children’s Hospital-San Diego, Sharp Mary Birch Hospital for Women and Newborns and San Diego State University’s School of Public Health, in 2014 we opened the Mommy’s Milk Human Milk Research Biorepository. This will enable scientists from diverse fields to answer a multitude of questions about human milk, including its unique biochemical properties and the extent to which pharmaceuticals and substances to which nursing infants are exposed can be passed to the infant during breastfeeding and their effects on the infant both while nursing and long term.

RESEARCH SUPPORT

Christina D. Chambers, PhD, MPH
C08MH087560 02/15/2015-02/14/2016 $49,580
Bill & Melinda Gates Foundation
“Genotyping Dating at Birth by Metabolic Profile” Subaward #201502685
20143739 09/25/2014—09/24/2019 $207,000
Cdc
“Apremlist Pregnancy Exposure Registry: OTIS Autoimmune Diseases in Pregnancy Project”
U261HS00941 09/01/2013—08/31/2018 $244,906
NIH/NIAMS/HC
“NARCH VII—Development of a Model Resource and Support Network for FASD-affected Families in Tribal and Urban Native American Communities”
20130917 08/01/2013—07/31/2017 $1,891,036
AAAAG
“VAMPSS Postmarketing Surveillance of Alliura Safety in Pregnancy”
2013-1407 06/17/2013—06/16/2018 $3,708,453
Pfizer
“Infantlist Pregnancy Exposure Registry OTIS Autoimmune Diseases in Pregnancy Project”
2013-2318 06/01/2013—12/31/2020 $2,340,937
Janssen Biotech, Inc.
“California Birth Defects Monitoring Program”
2010-0316 01/01/2013—03/16/2017 $4,886,207
California Department of Health
“California Birth Defects Monitoring Program”
R01AA012511 09/02/2010—07/31/2017 $955,100
NIH/NIAAA
“Interindividual variation in Nutrition on Growth and Neurodevelopment in Children with FASD in Ukraine”
20113688 02/13/2012—02/12/2017 $8,585
UCB Pharma, Inc.
“Cimzia® Pregnancy Exposure Registry—an OTIS Autoimmune Diseases in Pregnancy Project”
20113655 08/25/2011—12/31/2017 $2,530,817
Genzyme (Sanofi-Aventis)
“The Teratology Pregnancy Exposure Registry – an OTIS Autoimmune Diseases in Pregnancy Project”
20098012 11/01/2010—10/31/2016 $5,171,066
Hoffman La Roche Genentech
“OTIS Autoimmune Diseases in Pregnancy Project: The Actemra Pregnancy Registry”
U01AA019879 09/20/2010—08/31/2016 $9,846
NIH-NIAAA
“Co-FASP Measurement of Prevalence of FASD in San Diego County”
20086297 11/01/2008—12/01/2010 $3,152,027
Boehringer Ingelheim
“OTIS Autoimmune Diseases in Pregnancy Project, The Ab tapect Pregnancy Registry”
2013-1433 2/28/2014—12/26/2015 $86,000
AAAAG
“Dolutegrine Pregnancy Exposure Registry”
20110211 01/15/2011—10/14/2014 $149,371
Gluco Smith Kline
“Asthma Control Test (ACT) Pregnancy Study — A VAMPSS Study”
201003461 08/12/2010—09/30/2014 $1,852,788
Novartis
“Menofix Vaccine Pregnancy Registry – A VAMPSS Study”
HHS010201000029C 02/25/2010—09/27/2015 $4,290,851
DHHS BARDA
“H1N1 and Influenza Viruses and Antiviral Medications in Pregnancy (VAMPSS)”
U261HS030982 HS 09/01/2009—08/31/2014 $91,570
NIH/NIAID/HC
“MARCH - NARCH National American Screening, Brief Intervention, and Referral for Treatment (NASBRT) For Prevention of Alcohol Use in Pregnancy”
R13HS01874-01 09/30/2010—07/31/2013 $2,410,401
FHI (AHRQ) Agency for Healthcare Research and Quality
“Pregnancy Outcomes and Asthma Medications in Pregnancy: a Demonstration Project”
CTA200515067 03/01/2005—11/19/2014 $6,140
Immunex Corporation/Amgen Incorporated
“Rheumatic Diseases and Psoriatic Arthritis Registry—OTIS Autoimmune Diseases in Pregnancy Project”
Kenneth Lyons Jones, MD
Continuous
Community Service Project
State of California
“Department of Education: California Teratogen Information Service & Clinical Research Program”

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Bhatti BR, Lee SJ, Lindsay SP, Wingard DL, Chambers CD, Mattson SN, Riley EP. Anterior cingulate cortex surface area relates to behavioral inhibition in adolescents with and without heavy prenatal alcohol exposure: Behav Brain Res 2015;288:729-731.


Bhati BR, Lee SJ, Lindsay SP, Wingard DL, Chambers CD, Jones KL, Mattson SN, Riley EP. Anterior cingulate cortex surface area relates to behavioral inhibition in adolescents with and without heavy prenatal alcohol exposure: Behav Brain Res 2015;288:729-731.


Bhati BR, Lee SJ, Lindsay SP, Wingard DL, Chambers CD, Mattson SN, Riley EP. Anterior cingulate cortex surface area relates to behavioral inhibition in adolescents with and without heavy prenatal alcohol exposure: Behav Brain Res 2015;288:729-731.


Emergency Medicine
INTRODUCTION

The Division of Emergency Medicine provides medical care to sick and injured children, under the leadership of Division Chief Dr. Keri Carstairs. The Division is comprised of the Sam S. and Rose Stein Emergency Care Center (ECC) at Rady Children’s Hospital-San Diego (RCHSD), a pediatric track at Rancho Springs ED in Murrieta, along with four Urgent Care Centers (UCCs), which are managed under the leadership of Section Chief, Dr. Kathleen Konzen.

Our ECC is the only emergency care center in the San Diego region that is solely dedicated to the care of children. It is also the only Level 1 pediatric trauma center in San Diego County. Our emergency care center specializes in a host of services including evaluation and treatment of medical illnesses, treatment of minor injuries (including lacerations), acute orthopedic care, pediatric sedations, non-accidental injuries, stabilization and treatment of children with critical illnesses and trauma, poisonings, water submersion injuries, acute psychiatric illnesses, and the care of children with special needs, among others. Our UCCs provide after-hours pediatric care conveniently located at four different locations outside of our main campus.

DIVISION FAST FACTS

The only Level 1 Pediatric Trauma Center in San Diego County

Over 86,000 patients entered Emergency Medicine’s doors July 2014 thru June 2015

MAJOR PLANS AND GOALS

To improve clinical operations recently expanded to Riverside County, and to grow the Urgent Care team to a 5th site in San Diego County.

To expand the fellowship program to include 3 pediatric emergency medicine fellows per year, and to start a new fellowship in pediatric point-of-care emergency ultrasound within 3 years.

To grow a new program dedicated to quality improvement, and pathway development to standardize the care provided. The development of an emergency medicine observation unit will help both the Division and hospital flow and capacity.

To continue the expansion of a research program that will support fellows and faculty in their research endeavors. This will include the addition of an epidemiology team for research design and statistical support as well as the development of a research assistant program and emergency medicine faculty development program to provide needed mentorship.

FACULTY
FACULTY

Angelo del Re, MD
Staff Physician

Sarah Judd, MD
Assistant Clinical Professor of Pediatrics

Naomi Lawrence-Reid, MD
Staff Physician

Wendy Hunter, MD
Associate Clinical Professor of Pediatrics

Jane Lyons, MD
Staff Physician

Micheala Vigilante, MD
Associate Clinical Professor of Pediatrics

Jennifer Weglowski, MD
Associate Clinical Professor of Pediatrics

Winston Wu, MD
Staff Physician

FACULTY

URGENT CARE PEDIATRICIANS

Katherine Koman, MD, MPH
Clinical Professor of Pediatrics, Medical Director

Tom Belloso, MD
Staff Physician

Shaun Berger, MD
Staff Physician

Trish Ghosh, MD
Staff Physician

Wicca Joshi, MD
Staff Physician

Lauren Kearney, MD
Staff Physician

Gregory Langley, MD
Associate Clinical Professor of Pediatrics

Seema Makhra, MD
Assistant Clinical Professor of Pediatrics

Jennifer Tiller, MD
Staff Physician

Kamala Vaidya, MD
Associate Physician

INTERMEDIATE CARE PEDIATRICIANS

Wendy Parker, MD
Associate Clinical Professor of Pediatrics

Sarah Judd, MD
Assistant Clinical Professor of Pediatrics

Naomi Lawrence-Reid, MD
Staff Physician

Jamie Lien, MD
Associate Clinical Professor of Pediatrics

Jane Lyman, MD
Staff Physician

Michael Long, MD
Staff Physician

Naomi Abe, MD
Assistant Clinical Professor of Pediatrics

Karen Yaphockun, DO
Assistant Clinical Professor of Pediatrics

Atim Uya, MD
Assistant Clinical Professor of Pediatrics, Director of Ultrasound

Shannon Wai, MD
Assistant Clinical Professor of Pediatrics, Director of Pediatric Emergency Medicine, Resident Education

Amy Williams, MD
Assistant Clinical Professor of Pediatrics

Elisa Zimmerman, MD
Staff Physician

NOT PICTURED:
Hannah Awa, MD, Adam Braddick, MD, Jehrib Carbarlo, MD, Patricia Eck, MD, Elizabeth Filler, MD, Kara Hutton, MD, Jenny Ilford, Sarah Judd, MD, Kathy Smith, MD, Annemarie Sedaya, MD, and Joel Traut, MD, Kimberly Willard, MD, Corey Simpson, MD

FELLOWS

Sarah Combs, MD
Margaret Huang, MD
Michael Lung, MD

Naomi Abe, MD
Karen Yaphockun, DO
CLINICAL CARE
Our Emergency Care Center is the only center of its kind in the San Diego region, solely dedicated to the emergency care of children and is the only Level I Trauma Center in San Diego County. The Center specializes in the evaluation, diagnosis, and treatment of all pediatric injuries. Keri L. Carstairs, MD, FACP began serving as chief and medical director of the Division of Emergency Medicine in July 2015. Dr. Seema Shah serves as Clinical Director. Dr. Heather Conrad serves as Medical Director for the pediatric track at Rancho Springs. Sue Carstairs, RN serves as the Director of Nursing. This is the busiest pediatric emergency department on the West Coast. From July 2014 through June 2015, over 86,000 patients arrived in the ECC for treatment. This is an increase in volume over the previous year. Despite this enormous increase in volume, our national and state ImPACT scores are at record high. Our average Left Without Being Seen (LWBS) rate was less than 2% daily, and the average length of stay was 140 minutes. As we begin FY 2016, our census continues to rise and we are estimated to see over 90,000 patients in our RCHSD ED, 4,000 in our Rancho Springs ED, and 4,000 in our Oceanside ED and 2,000 in our Oceanside OAG ED. These numbers continue to improve, with a LWBS rate for FY 2016 of 0.4% and length of stay of less than 130 minutes, both well below the industry benchmarks. Patient satisfaction scores also remain high. The ECC is the most common entrance for admitted patients at RCHSD. Ten percent of the patients that are seen in the ECC are admitted. This accounts for approximately 50% of the total admissions to RCHSD. ECC is the receiving unit for emergency transport brought in by paramedics via both ground and air transport. The Division provides continuous feedback and consultation regarding pediatric pre-hospital and disaster preparation and care in San Diego.

The Division is also focusing on the care of pediatric mental health patients as the child health needs has tripled over the previous 2 years. This patient population presents a unique challenge to both the division and the entire hospital, as the patients require prolonged evaluation and observation, and often wait days for inpatient beds. We have developed a working group to focus on the use of ultrasound in the ED and to decrease boarding time. A mental health observation unit was opened in order to improve both capacity and the quality of care delivered. This resulted in 55% of mental health patients discharged home after observation, thereby avoiding unnecessary admissions.

In 2015, the Department recruited Dr. Atim Uya, who has completed fellowship training in both pediatric emergency medicine and anesthesia at the University of Texas Health Science Center at Houston. In this role, Dr. Uya has implemented a robust trauma tracking system and a trauma drill to improve patient care. In addition to his clinical duties, he served as the Medical Director of the Pediatric Ultrasound Program at UCSD. In 2017, he directed our national Ultrasound program to become an Accreditation Council for Emergency Medicine (ACEM) approved fellowship program. He is a leading expert in the field of point-of-care ultrasound and has developed a robust training program to ensure all of our pediatric providers are comfortable using ultrasound. The Division has created a ‘handoff’ tool to be used by both ED and inpatient providers. This provides the ability to track usage of the tool, in addition to monitoring the metrics to ensure capacity is being met. Appendicitis: as a part of the Gastroenterology service line, a new pathway was developed with pediatric surgeons and radiologists to improve the use of ultrasound for appendicitis. This pathway also includes the utilization of an order set and attempts to streamline management of patients in the ED. 

Bronchiolitis: In conjunction with the hospital-based multidisciplinary pathway group, the pathway was reorganized to be consistent with the 2014 American Academy of Pediatrics bronchiolitis guidelines. After implementation of the new pathway and order set, this markedly decreased the unnecessary use of beta, agonist therapy.

Handoff: The field of Emergency Medicine is particularly susceptible to serious errors due to frequent interruptions, rapid turnover of patients, and a high stress environment. The Division has created a ‘handoff’ tool to be used by both ED and inpatient providers. This provides the ability to track usage of the tool, in addition to monitoring the metrics to ensure capacity is being met. 

Appendicitis: as a part of the Gastroenterology service line, a new pathway was developed with pediatric surgeons and radiologists to improve the use of ultrasound for appendicitis. This pathway also includes the utilization of an order set and attempts to streamline management of patients in the ED. 

Bronchiolitis: In conjunction with the hospital-based multidisciplinary pathway group, the pathway was reorganized to be consistent with the 2014 American Academy of Pediatrics bronchiolitis guidelines. After implementation of the new pathway and order set, this markedly decreased the unnecessary use of beta, agonist therapy.

Disaster Preparedness
The Department has recently recruited Dr. Joelle Donofrio as EMS director, who has specialized training in pediatric emergency medicine ultrasound. She is currently in the process of implementing both the Division’s and the hospital’s approach to disaster preparedness in order to help make us ready to be the first line-receiving unit for pediatric disaster victims.

EMERGENCY MEDICAL SERVICES
The Division currently has 20 full-time faculty of fellowship, fellows have obtained positions in academic institutions nationwide, including UCSD. SIMULATION
A pediatric emergency medicine simulation director was recently appointed. This is an emerging area of increasing importance that helps future clinicians learn how to care for children as well as maintains the skills of our faculty. Fellow and residents meet monthly via this robust simulation program, which is also now part of the Division’s academic mission.

EDUCATION AND OUTREACH
Dr.s. Ismihan and Shah have hosted eight Pediatric Emergency Medicine Regional Conferences, running biannually, which have drawn audiences from around the world, including medical students and health science trainees and faculty, with a goal of improving pediatric care at emergency departments throughout the county. Division faculty members continue to provide lectures both within and outside the confines of the university at regional and national conferences.

CLINICAL ACTIVITIES

TEACHING ACTIVITIES

HUMAN SUBJECT STUDIES

Carstairs S, Carstairs K, Yaphockun K, Hollenbach K, Ferran K. A retrospective review of antipsychotic medication administration for psychiatric patients in a tertiary care pediatric hospital emergency department. IRR approved.

Carstairs S, Carstairs K, Yaphockun K, Ferran K, Hollenbach K. A retrospective review of administration of pharmacological coverage. However, the Division is in the process of changing its research environment. With generous support from the Rady Children’s Hospital Academic Enrichment Fund Award, the Division continues to expand its educational impact. Kathryn Hollenbach, PhD, MPH and Karen Ferran, PhD, MSPh, professional epidemiologists and biostatisticians were recently recruited by the Division to spearhead new research methodology research, biostatistical support, and scientific writing expertise. Additionally, Dr. Hollenbach is in the process of obtaining training to become an EPIC analyst to help with extraction of data from EPIC, RCHSD’s electronic medical record system, in order to support the Division’s research efforts. In addition, Drs. Hollenbach and Ferran are spearheading the development of a new research assistant (RA) program. On-site RAs will enhance clinical research by extracting data for retrospective clinical and quality improvement initiatives, providing real-time data collection for our prospective clinical studies. As of January, 12 RAs have been identified and are currently undergoing training, enabling process and patient care improvements. Twelve RAs have been recruited and are currently under review. All of these efforts will result in improved support for the faculty to increase academic output.

A CHANGE IN THE RESEARCH ENVIRONMENT

Although the ECC is a rich source of material for clinical research, in the past, clinical obligations have taken priority over research. Historically, the academic output by the Division has depended upon the sporadic unfunded efforts of full-time clinicians. Despite creative efforts to increase research activity (for example, most of the Department’s K publications or submissions used subjects recruited by the Division’s co-directors, Dr. Kawasaki Disease Research Group), potential subjects were more often lost than recruited. In comparison, truly successful academic PEM providers state their statistical support and research assistant (RA) coverage. However, the Division is in the process of changing its research environment. With generous support from the Rady Children’s Hospital Academic Enrichment Fund Award, the Division’s research environment is changing. Kathryn Hollenbach, PhD, MPH and Karen Ferran, PhD, MSPh, professional epidemiologists and biostatisticians were recently recruited by the Division to spearhead new research methodology research, biostatistical support, and scientific writing expertise. Additionally, the Division's research infrastructure is expanding. Several members have also published articles in journals including the NEJM, Lancet, BMC Pediatrics, PLOS ONE, Medical Epidemiology. Eight abstracts have been presented at national, regional, and international meetings, which have drawn audiences from around the world, including medical students and health science trainees and faculty, with a goal of improving pediatric care at emergency departments throughout the county. Division faculty members continue to provide lectures both within and outside the confines of the university at regional and national conferences.

RESEARCH ACTIVITIES
care pediatric hospital in patients with suspected antimuscarinic poisoning. IRB approved.

Williams A, Bonus R, Johnson AL, Pommere H, Hollenhack KA, Kanegaye JT. Tablet computer use for tool during facial laceration repair: A randomized trial. Data analysis and manuscript in progress.


Ishimine P. RCHSD site investigator for the AAP Pediatric Emergency Medicine Collaborative Research Committee: Herpes simplex virus infection in infants. Manuscript under revision for resubmission.

IVI Tamas V, Madati J, Ishimine P. D- and L-lactate levels as biomarkers for intussusception. Manuscript under revision for resubmission.

Shah S, Hollenbach K. Utilization of the asthma pathway to caused by accidental trauma. Data analysis in progress.

Kosair Children’s Hospital, Louisville KY. Clinical decision rules to discriminate bruising caused by physical child abuse from bruising caused by accidental trauma. Data collection in progress.


Nguyen M, Lizardo E, Bickler S, DiMaio A. Urine biomarkers in the diagnosis of acute appendicitis. IRB approved, study collection to be started.


Huang M, Wu S, Fairbanks T. Retrospective study of diagnostic utility of D-dimer in excluding head trauma.


McDaniel M, Arpilleda J. Pediatric emergency provider use of medications for D-dimer in evaluating children for potential anterior shoulder dislocations. IRB approved, RTA letter received.


Kanegaye JT. A Retrospective review of naloxone use in a tertiary-care pediatric hospital. IRB research plan submitted (1/13/15).


Kanegaye JT, Chan T. Pediatric Emergency Department Staffing: Comparison of mid-level providers, emergency physicians, and pediatrists. In planning phase.


Yabockson K, Kaufhold M, Dwek J, Kanegaye JT. The additional diagnostic utility of lateral radiographs on lower extremity joints identifying fractures on skeletal surveys. Research plan in progress.


Putnam K, Carstairs K, Fairbanks T, Magi A. Prospective study of teledermatology in the diagnosis of acute appendicitis.

PEM fellows, Carstairs K, Hollenhack KA. Urine cytometric urinalysis as a predictor of UTI and bacteremia in young febrile infants. Data collection in progress.

Kanegaye JT, Tremoulet AH, Burns JC, Ling BX. Biomarker and diagnostic evaluation for patients with febrile illness due to other febrile illnesses. Patient enrollment in progress.

Magana J, Kanegaye JT, in collaboration with emergency and child abuse investigators at Lister Children’s Hospital, Chicago IL, and Cincinnati Children’s Hospital Medical Center, Cincinnati OH, and Kossair Children’s Hospital, Louisville KY. Clinical decision rules to discriminate bruising caused by accidental trauma. Data analysis in progress.

Shah S, Hollenhack K. Utilization of the asthma pathway to improve asthma management in a pediatric emergency department. Requirement for IRB approval and consent waiver (date).

Tamaya V, Madati J, Ishimine P, D. L-lactate levels as biomarkers for intussusception. Manuscript under revision for resubmission.


**AWARDS**

Keri Carstairs, MD
Rady Children's Hospital Physician of Excellence Award 2014

Jonathan Auten, DO
New Speakers Forum, ACEP 2014

Matthew Murray, MD
2nd Place-Western Society for Academic Emergency Medicine New Speaker Forum
University of California San Diego Emergency Medicine faculty Teacher of the Year award 2015

Cindy Hoeker, MD
AAP Pediatric Emergency Medicine PEM Px Competition Winner 2015

John Kanegaye, MD
Top Doctor, San Diego County Medical Society 2014
Excellence in Teaching Award, Rady Children’s Hospital 2014

Paul Ishimine, MD
Top Doctor, San Diego County Medical Society 2014

Seema Shah, MD
Top Doctor, San Diego County Medical Society 2015

Under the leadership of Dr. Katherine Konzen, Urgent Care Medical Director, the Urgent Care Centers (UCC) saw over 50,000 patients at four off-site urgent care facilities last year, a 15% increase from the previous year. UCC provide nearby access to local communities so that parents and patients do not need to travel to the RCHSD Emergency Department and provide quick access to board-certified pediatricians and pediatric-trained nurses when the family’s doctor or pediatrician’s office is closed evenings and weekends. Our clinics provide after-hours care 365 days a year. The sites are open 4pm-10pm weekdays and holidays, and 1pm-10pm on weekends.

The Urgent Care Center Teams of Physicians, Nurses and Patient Access Reps have held an annual retreat over the past 5 years to conduct team building and to collectively solve challenging issues. The section meets monthly as a team to discuss efficiency and patient satisfaction, with the focus on systems issues to improve care. The high commitment to efficiency and quality, by the team accounts for the large number of patients that UCC is able to see and treat. UCCs transfer 2-4 % of patients to the Emergency Department/or Inpatient Unit. Overall, UCC is able to care for 96% of requesting patients and families.

**SECTION OF URGENT CARE**

**CLINICAL CARE OFF-CAMPUS SITES**

The North County Urgent Care is located at 625 W. Citracado Parkway, Suite 100, in the North County Medical Office Building. RCHSD leases space to run CCS specialty clinics during the day and the Urgent Care Center in the evenings and weekends. This site is located off Interstate 15 on the corner of Felicita and Citracado Parkway. Our team of providers treat over 13,000 patients per year at North County.

The East County Urgent Care facility was re-opened in March 2008 on the Grossmont Medical Center Campus. This Urgent Care facility is conveniently located for people who live in East County communities such as La Mesa or El Cajon. This site has grown significantly since its re-opening, and we treat over 12,000 patients per year at East County.

The Mid-City Clinic was designed to provide comprehensive services for a largely underserved population in City Heights based on a creative model. The Mid-City Clinic sees primary care patients at the site during the day, the Urgent Care team sees patients in the evening, and provides service that is unparalleled in quality and efficiency to an area where most patients must use public transportation to travel beyond their neighborhoods. This site provides services seven days a week and is open until 10pm. We treat 18,000 per year at Mid-City.

The North Coastal Clinic is located in Oceanside and is a collaborative effort between Sanford clinics, CPMC, CSSD Specialty Clinics and RCHSD. The Urgent Care shares space with the Specialty clinics. This site opened in April of 2010, with over 12,000 patients treated per year. 11,269 seen patients through the end of the fiscal year. This site continues to grow at this site with a 40% increase in census the past year.

**TEACHING ACTIVITIES**

There are 2-week long elective rotations for UCSD Pediatric Residents and Family Medicine Residents at the UCCs. Family practice residents from Scripps also do a 2-week rotation with us. Education is a commitment in our program. Drs. Trish Ghiosi and Jennifer Tiller have taken the lead as the coordinators of our educational program. In addition, there is a mandatory 2-week rotation for all UCSD Pediatric residents in the Intermediate Care of the Emergency Department or in the UCCs. Physicians participate in the education of residents, medical students and nurse practitioner students.
Endocrinology
INTRODUCTION

The Division of Endocrinology is actively engaged in clinical care, research, teaching and community service in the areas of endocrinology, diabetes, lipid disorders and obesity. The Division has continued to expand its clinical and research activities to meet the ongoing health needs of the San Diego pediatric community.

DIVISION FAST FACTS

$7.4 million in research grants

over 1,400 children with type 1 or type 2 diabetes seen routinely in the clinic

MAJOR PLANS AND GOALS

- To build a pediatric diabetes center in San Diego!
- To merging independent programs into a single center
- To focus research on islet cell regeneration, including stem cell initiatives, immune-based interventions in recent onset of type 1 diabetes mellitus, and crucial collaborations that interlace biological approaches to devise new avenues to treat and prevent type 1 diabetes mellitus
- To create a clinical research program for obesity and related consequences, directed toward prevention and treatment of obesity, insulin resistance, fatty liver disease, metabolic syndrome and dyslipidemia
San Diego (RCHSD) and in satellite offices in San Diego, endocrinology clinics are located at Rady Children’s Hospital Prader-Willi clinic and Neuro-Oncology Clinic. Recently the division established the Gender Management Clinic to provide care for transgender Children’s and adolescents. Outpatient endocrinology clinics are located at Rady Children’s Hospital San Diego (RCHSD) and in satellite offices in San Diego, Imperial and Riverside Counties. Over the past year, there were more than 16,000 endocrine/diabetes outpatient visits, and over 1,400 children with either type 1 or type 2 diabetes mellitus were managed on the Pediatric Endocrinology service. The Diabetes Clinic at RCHSD received the American Diabetes Association Recognition Award for meeting the standards of education in diabetes self-management.

The Division of Pediatric Endocrinology cares for children and pediatric endocrinology fellows in the pediatric diabetes and Metabolism course, precepts medical students in the Department of Pediatrics. As such, he is very involved in resident and fellowship education. He was the mentor for one UCSD extension, and he mentors undergraduate researchers in her laboratory. Kenneth Lee Jones, MD Dr. Jones continues to work with students, rotating residents and pediatric endocrinology fellows in the pediatric diabetes and endocrinology clinics. He also spends one week each month as the inpatient-attending physician on the pediatric diabetes and endocrinology service. In this capacity, he rounds with the resident/student team for an hour each morning.

Dr. Phillips teaches medical students, interns and fellows in the outpatient pediatric diabetes and endocrinology clinics as well as in the UCSD/VA diabetes outpatient clinic. She serves as an instructor in the Endocrinology and Metabolism course for first and second year medical students. She provides didactic lectures on a variety of topics in diabetes and endocrine/obesity to rotating medical students, housestaff and fellows at Rady’s and the VA Medical Center. She serves as an ISP to one student yearly and to mentor rotating undergraduates and medical students in the laboratory. Dr. Phillips also serves as a member of the core curriculum committee involved in the policy and administration of medical student education.
metabolism in adults is a significant breakthrough in obesity gain-associated long-term postpartum obesity in humans. A new rodent model resembling excessive gestational weight term postpartum obesity. This project has successfully created lipid metabolism and lipid transport are other main aims of development. 2) Placental lipid metabolism and fetal fat secreted hormone adiponectin in fetal growth and tissue studies is to elucidate the regulatory effects of adipocyte-β cells from other cell sources. These findings have important implications for the development of cell reprogramming strategies to produce beta cells from other cell sources in vitro. In recent work, Dr. Sander has also studied mechanisms of beta cell failure in type 2 diabetes. Work from her laboratory has identified important regulators of beta cell adaptation to increased nutrient load. She is current investigating whether these regulators could be targeted pharmacologically to improve glucose homeostasis in animal models of type 2 diabetes.

Jane Shao, MD, PhD continues his research in obesity. His laboratory currently is working on three main projects: 1) Adiponectin and fetal programming. The main goal of these studies is to elucidate the regulatory effects of adipocyte-secreted hormone adiponectin in fetal growth and tissue development. 2) Placental lipid metabolism and fetal fat deposition. The objective of this study is to determine the mechanisms underlying maternal obesity-induced fetal fat accumulation. Signaling pathways for controlling placental lipid metabolism and lipid transport are other main aims of this project. 3) Excessive gestational weight gain and long-term postpartum obesity. This project has successfully created a new rodent model resembling excessive gestational weight gain-associated long-term postpartum obesity in humans. These studies will identify a novel cause of obesity in women. The anticipated discovery of reprogramming of energy metabolism in adults is a significant breakthrough in obesity research.  

**Maike Sander, MD conducts research into developing strategies for a cell-based therapy for diabetes mellitus. The successful production of insulin-producing beta cells requires a thorough understanding of the molecular networks that direct the normal development of these cells. The main objective of Dr. Sander’s current research is to identify strategies for producing functional insulin-producing beta cells from pluripotent stem cells in vitro. Research from her group established mechanisms by which cells activate the transcription factors that lead to the induction of pancreas and beta cell genes.**

Andrew Hinton, PhD  
Hillblom Foundation (PI)  
"Long-Aging Human Growth Hormone (VRS-317) in Prepubertal Children with Growth Hormone Deficiency"  
5/1/2000-4/30/2003  $50,000  
Emory University  
"Safety and Efficacy of Etxetaxol as Monotherapy and Adjunctive Therapy to Oral Antidiabetic Agents in Adolescents with Type 2 Diabetes Protocol HRO-MC-GWBQ"  
7/1/2006-6/30/2008  $120,000  
University of Florida  
"Modeling Pancreatic Endocrine Cell Development"  
7/1/2007-6/30/2009  $89,909  
Tulane University  
"Methods for Markers of Developmental Competency Toward Insulin Producing Cells"  
7/1/2010-6/30/2015  $63,836  
Trinity Biomedical Research Institute  
"Epigenetic Regulation of PDX1 Gene"  
7/1/2015-6/30/2018  $93,510  
Hillblom Foundation  
"Modeling Pancreatic Endocrine Cell Development"  
7/1/2011-6/30/2013  $93,130  
Research Foundation  
"Defining Links Between Chromatin State and Developmental Competence"  
7/1/2017-6/30/2020  $720,000  
NIH  
"Increasing Pancreatic Beta Cell Mass: Characterizing a Novel Regulator of Beta Cell Proliferation"  
10/1/2017-9/30/2020  $41,618

Maike Sander, MD  
UCSD Pediatrics Genome (PI)  
"Epigenetic Predictors of Obesity and Insulin Resistance in Childhood"  
7/1/2006-6/30/2015  $50,000  
Children’s Hospital Los Angeles  
"Metabolic Profiling in Children with Type 2 Diabetes and Obesity"  
7/1/2008-6/30/2010  $20,500  
UCSD Pediatrics Genome  
"The Metabolome in Obesity and Type 2 Diabetes"  
7/1/2012-6/30/2014  $100,000  
Trudeau Institute  
"The LEO Pharmaceutica Inc. R&D Program"  
7/1/2013-6/30/2015  $18,000  
Akr  
"A Phase 3, Randomized, Multi-Center, Open-Label Study to Evaluate the Efficacy and Safety of Leuprolide Acetate 11.25 mg and 30 mg Formulations in Children with Central Precocious Puberty"  
7/1/2014-6/30/2016  $1,882,800  
Pharmacia Inc.  
"An Open-label, Single Arm, Multicenter Study on the Efficacy, Safety, and Pharmacokinetics of Triptorelinepamoate 22.5 mg 6-month Formulation in CPP Patients"  
7/1/2015-6/30/2017  $1,890,000  
TOLMAR (PI)  
"Mechanisms of Pancreatic Endocrine Cell Differentiation"  
7/1/2016-6/30/2018  $1,050,000  
CIRM  
"Increasing Pancreatic Beta Cell Mass: Characterizing a Novel Regulator of Beta Cell Proliferation"  
7/1/2017-6/30/2020  $500,000  
NIH  
"Defining Links Between Chromatin State and Developmental Competence"  
7/1/2018-6/30/2021  $482,200  
CIRM
Gastroenterology, Hepatology & Nutrition
INTRODUCTION

The Division of Gastroenterology, Hepatology and Nutrition is dedicated to improving the lives of children and adolescents through outstanding clinical care, world renowned medical education, and cutting-edge research. Its clinical programs welcome a diverse patient population from not only Southern California but also from other nations including Mexico, Pacific Rim and Arab countries. The Division provides care to 12,000 outpatients and 4,500 inpatients each year, performing a total of 2,500 procedures a year. Patients come to the Division for knowledge, expertise and innovation. From creating new programs which address specific patient populations to conducting research on obesity and its metabolic complications, the Division is striving to be the best in the field.

DIVISION FAST FACTS

Over $3.2 million in research funding

The Celiac Disease Clinic is 1 of just 5 clinics in the western United States

FACULTY

Ariel Feldstein, MD
Professor of Pediatrics
Division Chief

Hannah Arai, MD
Staff Physician

Lars Bodt, PhD
Associate Professor of Pediatrics
in Residence

Keri Routelle, PhD
Professor of Clinical Pediatrics
and Psychiatry
in Residence

Rebecca Cherry, MD
Associate Clinical Professor of Pediatrics

Lillian Cho, MD
Associate Clinical Professor of Pediatrics

M. Abigail Garcia, MD
Assistant Clinical Professor of Pediatrics

Nahid Goyal, MD
Staff Physician

Xenia Hom, MD
Associate Clinical Professor of Pediatrics

Ranjit Deoil, MD, BcH
Assistant Clinical Professor of Pediatrics

M. Abigail Garcia, MD
Assistant Clinical Professor of Pediatrics

Nahid Goyal, MD
Staff Physician

Xenia Hom, MD
Associate Clinical Professor of Pediatrics

Joanie Huang, MD, MPH
Associate Professor of Pediatrics
in Residence

Sherry Huang, MD
Clinical Professor of Pediatrics
Assistant Dean, Graduate Medical Education

Jae Kim, MD, PhD
Clinical Professor of Pediatrics

Hayal Mouss, MD
Professor of Clinical Pediatrics
Clinical Medical Director

Kimberly Newton, MD
Associate Professor of Pediatrics

Hayal Mouss, MD
Professor of Clinical Pediatrics

Kimberly Newton, MD
Associate Professor of Pediatrics

The Development of an Inflammatory Bowel Disease Center, a multidisciplinary center that will provide comprehensive care for children with Crohn’s Disease and ulcerative colitis

Recruitments are underway to support the capacity for research in developmental biology, stem cells, inflammatory bowel disease, and motility disorders

To increase nutritional awareness by providing formal educational opportunities to the house staff and students. A “Short Gut Pathway” (Dr. Taylor) is near completion and will improve outcomes in hospitalized patients with intestinal failure. Also in development is an inpatient RCHSD Nutrition Support Team

To enhance the fellowship program by maximizing the number of fellows, and seeking more GI-dedicated fellow training grant slots

MAJOR PLANS AND GOALS
therapy services, and the child's growth and other nutritional disease nutritionist for nutritional counseling and medical nutrition diet. Affected children and their families are referred to a celiac outpatient satellite care in Escondido, Murrieta, and Encinitas. Medical Center, and Kaiser-Permanente. The Division also provides and enteral nutritional supplementation, and disorders of the Gastroenterology and Nutrition are the sole providers for The board-certified faculty members of the Division of Gastroenterology and Nutrition are the sole providers for the Cystic Fibrosis/Gastroenterology Clinic, a multidisciplinary clinic that involves gastroenterology, pulmonology, nutrition, respiratory therapy, social work and cystic fibrosis nursing care. We offer comprehensive care for children diagnosed with eosinophilic esophagitis in our Eosinophilic Gastrointestinal Disorders Clinic which is staffed by a multidisciplinary team of pediatric allergists/immunologists, a pediatric gastroenterologist, a pediatric nutritionist and a pediatric nurse coordinator. The Celiac Disease Clinic diagnoses celiac disease in children and provides follow-up care to ensure they are sticking to a gluten-free diet. Affected children and their families are referred to a celiac disease nutritionist for nutritional counseling and medical nutrition therapy services, and the child’s growth and other nutritional components: a multidisciplinary evaluation, a 12-week intervention group and individual therapies. The team addresses medical, developmental, behavioral and social-emotional aspects of feeding disorders in young children. The Intestinal Rehabilitation Center exclusively treats children suffering from short bowel syndrome, with the goal of improving nutrition status and weaning them of total parenteral nutrition (TPN).

Neuрогastroenterology and Motility Center: The Center for Gastrointestinal Motility Disorders manages referrals with Hirschsprung’s disease, pseudo obstruction, fecal incontinence, gastroparesis, abdominal pain, bloating, achalasia, feeding and swallowing disorders and severe constipation refractory to medical management. The Center also offers the following procedures: colonic motility studies, anorectal motility studies, anorectal manometry, esophageal motility studies, smart pill, gastric emptying, gastric electric stimulation and sacral nerve stimulation. The Weight and Wellness Center manages child and adolescent obesity through safe and personalized treatments. Our multidisciplinary team is dedicated to reducing the health burden of obesity in children, with a focus on reasonable and achievable goals. In 2001, the University of California, San Diego brought its established pediatric liver transplant program and renovated transplant team to Rady Children’s in a combined effort to provide transplant patients in the region with the highest level of care. With UC San Diego’s proven excellence in transplantation and Rady Children’s nationally recognized treatment and healing environment, the two organizations have created a program that parallels the best in the United States.

We have joined ImproveCareNow, a consortium of 85 centers in the US and UK who take care of children with inflammatory bowel disease. With an emphasis on quality improvement, the networks goal is to increase the percentage of patients in sustained and steroid-free remission.

TEACHING ACTIVITIES

The Division’s ACGME accredited three-year fellowship program trains up to six fellows in clinical and basic science research. The program combines clinical and research training throughout the program, with the first year focused on an in-depth clinical experience in gastroenterology, hepatology, and nutrition. The second and third years provide time for focused development of research interests.

In addition to the fellowship, our division provides training and elective opportunities to medical students at all levels, as well as pediatric residents. Jeannie Huang, MD, MPH, Director of Continuing Medical Education at Rady Children’s Hospital, has also been and currently is involved in a number of national medical education efforts, including the award-winning Health and Obesity: Prevention and

RESEARCH ACTIVITIES

The board-certified faculty members of the Division of Gastroenterology and Nutrition are the sole providers for pediatric digestive diseases in San Diego and Imperial Counties, providing consultations for patients and physicians on all aspects of gastrointestinal disease in the inpatient and outpatient setting, including diagnostic and therapeutic endoscopies, living-related and cadaveric liver transplantation, liver diseases, obesity and weight management, eosinophilic esophagitis, motility disorders, pancreatic and enteral nutritional supplementation, and disorders of the pancreas and gallbladder. The Division has outpatient clinic centers at Rady Children’s Hospital-San Diego (RCHSD), Balboa Naval Medical Center, and Kaiser-Permanente. The Division also provides outpatient satellite care in Escondido, Murrieta, and Encinitas.

Mamata Srivagnam, MD, Assistant Professor of Pediatrics in Residence

Tamara Takedani, MD, Assistant Professor of Pediatrics

Sharon Taylor, MD, Clinical Professor of Pediatrics

Elizabeth Yu, MD, Assistant Professor of Pediatrics

Lourdes Herrera, MD, MPH, year, UCSD

Amber Hildreth, MD, year, UCSD

The Weight and Wellness Center manages child and adolescent

The Weight and Wellness Center manages child and adolescent

Kerri Boutelle, PhD performs research focusing on the causes, characterization, prevention and treatment of childhood, adolescent and adult obese disorders. Overarching research objectives include investigating the role of familial factors in the etiology of obesity, prevention, and treatment of obesity and eating disorders in youth, utilizing principles of basic behavioral science to inform and improve treatments for obesity and eating disorders, and determining intervention and prevention strategies aimed at changing the trajectory of weight and eating disorders in children and adolescents. In ongoing studies, Dr. Boutelle hopes to identify innovative and cost-effective treatment strategies for obese children (particularly overweight girls), to develop new treatments based on basic behavioral research for children who binge eat (self-regulation treatments), and to disseminate current behavioral treatment through innovative treatment methods (guided self-help, computer-based guidance for primary care physicians). Dr. Boutelle’s clinical interests lie in the treatment of childhood and adolescent obesity and eating disorders, and the concomitant depression, anxiety, oppositional, personality, behavioral and family changes that occur with eating-related difficulties. Her clinical work is grounded in empirically based cognitive-behavioral, interpersonal and family-based treatments, and she provides and supervises individual, group, and family therapy. Rebecca Cherry, MD, MPH, is the Associate Director of the Motility Center at RCHSD, providing consultation and diagnostic procedures for children with GI dysmotility as well as persistent abnormal

Lillian Cho, MD has special interests in pediatric gastroenterology that include functional abdominal pain. She was an active co-investigator of a pilot open-labeled trial investigating the effectiveness of SAM-e for the treatment of Functional Abdominal Pain (FAP) in children. Dr. Cho is also the Director of Endoscopy. Her goals are to maximize quality and patient safety. This includes regularly updating the endoscopy suite in regards to the latest endoscopic technologies and procedural equipment, and to expand the repertoire of endoscopic procedures available to patients who will allow for more effective, more therapeutic and most importantly, more reliable and safer care for patients. She has initiated regular and transparent quality improvement situations regarding the procedural service to ensure excellent patient care and comfort.

The Weight and Wellness Center manages child and adolescent obesity through safe and personalized treatments. Our multidisciplinary team is dedicated to reducing the health burden of obesity in children, with a focus on reasonable and achievable goals. In 2001, the University of California, San Diego brought its established pediatric liver transplant program and renovated transplant team to Rady Children’s in a combined effort to provide transplant patients in the region with the highest level of care. With UC San Diego’s proven excellence in transplantation and Rady Children’s nationally recognized treatment and healing environment, the two organizations have created a program that parallels the best in the United States.

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Ranjani Dohil, MD: Research interest has included esophageal motility in pediatric patients with chronic constipation and celiac disease. She has received grants from the National Institutes of Health, the UCSD Esophageal Research Program, the Cystic Fibrosis Foundation, the American Gastroenterological Association, and the Pediatric Academic Society. Dr. Dohil is the Co-Director of the Pediatric Motility Unit and serves as the Director of the Celiac Disease Clinic at RCHSD, the first clinic in the U.S. dedicated to the care of children with celiac disease and gluten-related disorders. She has published extensively with a focus on esophageal motility and celiac disease.

Bernardina Rodrigo, MD: Research interest has included the role of social media in the prevention of weight gain and obesity in adolescents. Dr. Rodrigo has published extensively with a focus on social media and obesity prevention.

Rosa E. Hussain, MD: Research interest has included the role of esophageal motility in pediatric patients with chronic constipation. Dr. Hussain has received grants from the National Institutes of Health and the Cystic Fibrosis Foundation. She serves as the Director of the Pediatric Motility Unit and the Celiac Disease Clinic at RCHSD.

Sara P. Ribles, MD: Research interest has included the role of social media in the prevention of weight gain and obesity in adolescents. Dr. Ribles has published extensively with a focus on social media and obesity prevention.

Ranjan Dohil, MD: Research interest has included esophageal motility in pediatric patients with chronic constipation and celiac disease. She has received grants from the National Institutes of Health, the UCSD Esophageal Research Program, the Cystic Fibrosis Foundation, the American Gastroenterological Association, and the Pediatric Academic Society. Dr. Dohil is the Co-Director of the Pediatric Motility Unit and serves as the Director of the Celiac Disease Clinic at RCHSD, the first clinic in the U.S. dedicated to the care of children with celiac disease and gluten-related disorders. She has published extensively with a focus on esophageal motility and celiac disease.

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NSF (PI Tilak) 2013-2015 $617,681
"SenseHealth: A Platform to Enable Personalized Healthcare through Context-aware Sensing and Predictive Modeling Using Sensor Streams and Electronic Medical Record Data."

Hayat Mousa, MD
ANM1 502 (PI) July 2015-June 2017 $128,000
Abbott Nutrition
"2’Fucosyllactose and Gut Motility in Human Subjects"

NIH/NIHDK
Gastroenterology Training Grant
Role: Representative research training program in Pediatric GI

UCSD Academic Enrichment Fund (PI) July 2015-June 2017 $80,000
UCSD Faculty Bridge Fund (PI) July 2015-June 2018 $150,000
5T32 DK07202-40 (PI) July 2015-June 2017
"Esophageal distensibility: its value in predicting fibrotic remodeling and clinical phenotype in patients with eosinophilic esophagitis"

[PI]
Oct 2010-Sept 2014 $158,980
"A randomized controlled trial of amitriptyline for chronic oral food refusal"
(PI Team: Ann McGrath Davis, PhD, MPH, Amanda Bruce, PhD, Hayat Mousa, MD, Paul Hyman, MD)

American Neurogastroenterology and Motility Society July 2007-Dec 2015
Educational grant to train gastroenterology fellows in pediatric motility.

Jeffrey Schwimmer, MD
Ul1DK007341 (PI) May 2010-Apr 2014
NIH
"Clinical Research Network in Non-Alcoholic Steatohepatitis (NASH)"

5 R01 DK088925-02 (PI) Sept 2010-June 2015
NIH
"Technical Validation of MRI Biomarkers of Liver Fat"

R01DK088831 (PI) Sept 2012-Aug 2017
NIH
"Intestinal bacterial metagenome in pediatric NAFLD"

R01DK090350 (PI) Sept 2012-Aug 2014
NIH
"Development of MR Based Biomarker Panels for NAFLD-A NASH CRN Ancillary Study"

Mamata Sivagnanam, MD
1 K08 DK078672-01A2 (PI) Aug 2009-July 2014 $723,060
NIH (NIDDK)
"Intestinal Epithelial Function in Congenital Tufting Enteropathy"

07-1568 (PI) Dec 2008-Dec 2011 $150,000
Children’s Digestive Health
"Investigation of the Role of Epithelial Adhesion Molecule in the Intestinal Epithelium"

Acad Senate: Pilot Award (PI) July 2015-June 2016
"Unfolded Protein Response in Mutant EpCAM Mice"

Rady Academic Enrichment Fund (PI) May 2014-Apr 2015
"The Effect of Probiotics on Gut Microbiome and Adiposity"
Genetics
INTRODUCTION

The Division of Genetics is actively involved in clinical care, research, teaching and service. The Division sees more than 4,500 patients per year in a variety of clinics, primarily as outpatients at Rady Children’s Hospital-San Diego, but also throughout Southern California, and in Mexico. The Division has an active inpatient consult service, and also sees more than 500 inpatients per year. Faculty members in the Division presently hold more than $5 million in grants and contracts, and have published over 70 original articles and chapters within the last two years.

Division faculty are actively engaged in teaching at all training levels, including graduate and medical students, residents and fellows, and community physicians. The Division has a number of internationally recognized leaders in their respective fields. Many Genetics Division faculty have held leadership positions in national organizations, including most notably the Presidencies of the American College of Medical Genetics (Dr. Jones) and the American Society of Gene Therapy (Dr. Friedmann). A number of Genetics Division faculty members have been recognized for outstanding contributions to their respective biomedical research fields: Dr. Friedmann was the winner of the 2015 Japan Prize for pioneering work in the gene therapy field. Dr. La Spada was designated a Gund-Harrington Scholar in 2015, and Dr. Rana was inducted as a Fellow into the American Association for the Advancement of Science in 2015. Patients come for our knowledge, expertise and innovation. From creating new programs which address specific patient populations to conducting research on obesity and its metabolic complications, we strive to be the best in this field.

DIVISION FAST FACTS

Over $9 million in research support

The Division has a long-established tradition of excellence in specialized testing

MAJOR PLANS AND GOALS

To fully incorporate genomic sequencing and omics-based technologies into the diagnostic work-up and management of patients with genetic disorders

To develop the Genetics residency/fellowship into a leading academic training program

To continue to perform research that is at the very forefront of defining the genetic basis for a variety of inherited and common disorders

To utilize research advances to develop novel therapies for currently untreatable human diseases

FACULTY

Albert R. La Spada, MD, PhD
Professor of Pediatrics
Cellular & Molecular Medicine, Neurosciences, and Biological Sciences
Associate Director, Institute for Genomic Medicine
Division Chief

Bruce Barshop, MD, PhD
Professor of Clinical Pediatrics
Director, Metabolic Disease Section
Director, Biochemical Genetics & Metabolomics Laboratory

Craig L. Bennett, PhD
Assistant Adjunct Professor of Pediatrics

Mary M. Bird, PhD
Professor of Clinical Pediatrics

Stephanie Chergui, PhD
Assistant Professor of Pediatrics in Residence

FELLOWS

Kristen Wigby, MD, 1st year (2015-2016)

Mary Willis, MD
Affiliate Associate Professor of Pediatrics

Robert E. Naviaux, MD, PhD
Professor of Medicine
Pediatrics, and Pathology in Residence

Mark Nunes, MD
Affiliate Professor of Pediatrics

Mary Willix, MD
Affiliate Associate Professor of Pediatrics
The Division of Genetics provides a wide range of Clinical Genetics services to the greater San Diego community, including Prenatal Genetics, Pediatric Genetics, Cancer Genetics, and Reproductive Medicine care. Rady Children’s Hospital-San Diego and UCSD Medical Center have a long established tradition of excellence in Biochemical Genetics. Hence, the Division maintains a Biochemical Genetics Laboratory that serves as a regional referral center for basic research and clinical testing, including providing services to the California Newborn Screening Program. Genetics Division faculty oversee UCSD’s Prenatal Diagnosis Center, evaluate patients at the UCSD Fetal Diagnosis Center, and provide consultations on various inpatient services at Rady Children’s Hospital-San Diego and UCSD Medical Center system hospitals. Genetics Division faculty see patients in our outpatient Dysmorphology and Genetics Center, direct care in our outpatient Dysmorphology and Genetics clinics, and provide consultations at the San Diego Regional Center for the Developmentally Disabled, Hospital de las Californias in Tijuana, and El Centro Regional Center for the Developmentally Disabled.}

**TEACHING ACTIVITIES**

Upon Dr. La Spada’s arrival in 2009, the Clinical Genetics fellowship training program was overhauled to broaden the scope of the trainee’s experience and expand opportunities for fellows to engage in research during 6 months of a trainee’s protected time for research, or clinical studies. This philosophy is supported by a training program curriculum that provides at least 80% protected time for research during 6 months of a trainee’s fellowship training, and an additional optional fourth year fellowship year to further immerse the trainee in a focused and applied academic research undertaking.

Division faculty also take a leading role in training the next generation of physicians and scientists in genetics, molecular genetics, and molecular diagnosis. Didactics course which features a set of two lectures each week is Dr. La Spada’s, is fully accredited to train Clinical Genetics fellows and residents in an annual Medical Genetics Didactics course which feature a set of two lectures each week. Genetics fellows and residents are in attendance for all didactic teaching activities.

**RESEARCH ACTIVITIES**


El-Gharbawy AH, Goldstein IL, Millington DS, Vasini AE, Schuette DD, Young SP. Elevation of guanidinoacetate in newborn dried blood spots and impact on basic genetics, cytogenetics, pediatric genetics, cancer genetics, molecular genetics, genomics, molecular diagnosis, and neurogenetics. J Genet Syndr Gene Ther. 6(4):203, 2013.


Khanna A, Giush R, Winter SC, Nyhan WL, Barshop BA. Successful Biochemical Genetics fellowship training program was overhauled to broaden the scope of the trainee’s experience and expand opportunities for fellows to engage in research during 6 months of a trainee’s protected time for research, or clinical studies. This philosophy is supported by a training program curriculum that provides at least 80% protected time for research during 6 months of a trainee’s fellowship training, and an additional optional fourth year fellowship year to further immerse the trainee in a focused and applied academic research undertaking. Division faculty also take a leading role in training the next generation of physicians and scientists in genetics, molecular genetics, and molecular diagnosis. Didactics course which features a set of two lectures each week is Dr. La Spada’s, is fully accredited to train Clinical Genetics fellows and residents in an annual Medical Genetics Didactics course which feature a set of two lectures each week. Genetics fellows and residents are in attendance for all didactic teaching activities.


Genome Information Sciences
INTRODUCTION

Since its inception in the fall of 2009, the Division of Genome Information Sciences has been actively engaged in both basic and clinical research in the mechanisms of genetic disease. The Division, in the UC San Diego School of Medicine’s Department of Pediatrics, is comprised of three faculty members, Dr. Kelly Frazer (Division Chief), Dr. Vikas Bansal and Dr. Debashis Sahoo. Dr. Frazer’s laboratory is located in the 13-story Biomedical Sciences Building and works closely with physicians in the Department of Pediatrics, Moores UCSD Cancer Center, UCSD Clinical and Translational Research Institute, Sulpizio Cardiovascular Center, and Rady Children’s Hospital. Dr. Bansal’s and Dr. Sahoo’s laboratories are located at the Rady Children’s Hospital campus and the School of Medicine Biomedical Research Facility II (BRF II).

DIVISION FAST FACTS

Nearly $1 million in research support

The Division is actively engaged in both clinical and research in the mechanisms of genetic disease

MAJOR PLANS AND GOALS

To continue with the Division’s highly collaborative research, engaging in a wide variety of clinical and basic science research to further the understanding, treatment, and cure of disorders

To expand its clinical and research activities through collaborations with research clinicians within the UC San Diego Health System

To expand the Division’s multi-disciplinary studies, allowing for data collection and analysis of large numbers of samples

RESEARCH ACTIVITIES

The main function of this division is to use genomic data as a basis for focusing on the predisposition for complex diseases. Their research aims to understand genetic predisposition to disease and the mechanism of expressed genotype to phenotype. Results of this research may result in patient specific treatments and the evolution of personalized medicine in the future.

Kelly Frazer, PhD

Dr. Frazer’s laboratory examines the influence of human genetic variation in disease, including the identification of rare variants that may predispose individuals to disease, and the gene networks regulating gene expression in disease. The laboratory also develops and validates bioinformatics analysis pipelines for the analysis of whole genome sequences, RNA transcriptomes, and epigenomes. Her laboratory’s research spans a wide spectrum of disease, including cardiovascular diseases such as long QT syndrome and cardiomyopathy, Type 2 diabetes, chronic lymphocytic leukemia (CLL), breast cancer, retinal dystrophies, and ovarian cancer. Notably, her laboratory has specifically been funded to link cardiac molecular phenotypes to genotypes through the generation of iPSC-derived cardiomyocytes from 222 individuals in the CARDiPS collection. The subjects in CARDiPS largely consist of normal healthy individuals as well as individuals with cardiovascular diseases. With these samples we hope to identify inherited coding and regulatory variants that influence gene expression and the epigenome landscape in both iPSCs and the corresponding derived cardiomyocytes.

The Division is involved with individual mentoring as well as classroom instruction. Dr. Sahoo currently teaches CSE100 and directs a postdoctorate researcher in his laboratory. Dr. Bansal currently mentors a graduate student from the Department of Computer Science & Engineering (CSE) and is a thesis committee member for students in Bioinformatics and Systems Biology (BSSB) Graduate Program and Biomedical Sciences (BMS) Graduate Program. He has also served as a mentor for an undergraduate student in the 2014-2015 RSRI Program at UCSD. In collaboration with Dr. Vineet Bafna from CSE, Dr. Bansal is preparing an online course ‘Analyze your Genomes’ for a CSE MS program with specialization in Biological Data Sciences. Dr. Frazer currently directs five post-doctorate researchers and three graduate students in her laboratory. The graduate students represent these UCSD training programs: Bioinformatics and Systems Biology (BSSB), Biomedical Informatics (BISB), Biomedical Informatics (BI) National Library of Medicine Fellowship, and the Genetics Training Program (GTP). Each academic quarter she mentors graduate students from the Biomedical Sciences (BMS) Graduate Program for lab rotations and serves on multiple graduate student thesis committees.

FACULTY

Kelly A. Frazer, PhD
Professor of Pediatrics
Division Chief
Director of UCSD Institute for Genomic Medicine

Vikas Bansal, PhD
Assistant Professor of Pediatrics

Debashis Sahoo, PhD
Assistant Professor of Pediatrics

TEACHING ACTIVITIES

The Division actively engages with UCSD Health clinics through coordination with Dr. Cheryl Saenz at the Moores Cancer Center. The overall goal of this research is to identify mRNA isoforms specifically expressed in tumors, in transcriptome sequencing data (RNA-seq) for the discovery of mRNA isoforms present specifically in ovarian tumor cells, which would allow for the development of early tumor detection assays. In addition, through a collaboration with Dr. John-Bjarne Hansen at the University of Tromsø (Norway), Dr. Frazer’s laboratory has conducted targeted sequencing and array genotyping of 1200 individuals and are analyzing these data to identify genetic risk factors and rare gene variation in the etiology of venous thromboembolism (VTE), a common disease resulting in deep-vein thrombosis and pulmonary embolism. A large part of the Frazer laboratory is involved in the NextGen Program of the National Human Genome Research Institute (NHGRI) and the Heart, Lung, and Blood Institute (NHLBI), which is aimed at generating data to identify genetic risk factors and rare gene variation in the etiology of venous thromboembolism (VTE), a common disease resulting in deep-vein thrombosis and pulmonary embolism. A large part of the Frazer laboratory is involved in the NextGen Program of the National Human Genome Research Institute (NHGRI) and the Heart, Lung, and Blood Institute (NHLBI), which is aimed at generating data to identify genetic risk factors and rare gene variation in the etiology of venous thromboembolism (VTE), a common disease resulting in deep-vein thrombosis and pulmonary embolism. A large part of the Frazer laboratory is involved in the NextGen Program of the National Human Genome Research Institute (NHGRI) and the Heart, Lung, and Blood Institute (NHLBI), which is aimed at generating data to identify genetic risk factors and rare gene variation in the etiology of venous thromboembolism (VTE), a common disease resulting in deep-vein thrombosis and pulmonary embolism.


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Heart Institute
(Cardiology & Cardiothoracic Surgery)
**INTRODUCTION**

Rady Children's Heart Institute was created to integrate and coordinate the clinical, research and educational programs of the Cardiology and Cardiovascular Surgery Divisions at RCHSD.

The division of Cardiology currently includes 19 full time cardiologists. Recruitments since July 2013 include: Dr. Singh, the Medical Director of Heart Failure and Transplantation, Dr. Yeh, the Medical Director of the Cardiovascular ICU, Dr. Do, an expert in cardiac intensive care, and Dr. Sah, a general cardiologist who will receive additional training in Cardiac Imaging as a junior faculty member. Dr. Ratnayaka an interventional cardiologist and expert in interventional MR was also recruited with the faculty in early 2016. Currently, there are active recruitments underway for two additional experts in cardiovascular intensive care and an expert in cardiac imaging.

**DIVISION FAST FACTS**

6 Heart Transplants in 2015 with 100% survival

Only comprehensive tertiary care in the San Diego Region

**MAJOR PLANS AND GOALS**

Successfully completed the recruitment of a third pediatric cardiothoracic surgeon, who is expected to begin operating on site in November 2013. We have recently added additional cardiology faculty with strong expertise in fetal echo and cardiac MRI

Funding for and are in the process of physician recruitment for leadership positions in Cardiac Transplantation and Cardiac Critical Care

Completed the installation of and are currently actively using a dedicated pediatric Cardiac MRI Scanner and a new state of the art dedicated Pediatric Cardiac Catheterization Laboratory. We are also working in our new cardiac operating room. We have opened a dedicated Cardiovascular Intensive Care Unit (CVICU), and we are on the verge of moving into an expanded, new Heart Center

Administrative and Board of Directors approval in place to establish an in-house pediatric heart transplant program associated with the UCSD adult program. We are in process of submitting our UNOS application for cardiac transplantation with the long range goal of adding a program in lung transplantation

**FACULTY (CARDIOLOGY)**
The Division is the only comprehensive tertiary care provider of cardiovascular services in the region (San Diego, Imperial, and South Orange Counties), and it receives referrals from Balboa Naval Medical Center, as well as the San Diego Regional Kaiser Medical Center. In addition, the Division is the major off island referral center for the State of Hawaii. The Division's clinical volumes for the academic years 2013-14 and 2015-16 were approximately 25 and 26 patients, total outpatient visits of 17,264 including patients seen in satellite offices. The echocardiography laboratory performed 12,269 echocardiograms. There were 620 cardiovascular catheterizations performed, about 75% of which were interventional catheterizations; and there were 219 cardiac MRI's performed. In the last five years there has been steady growth in all categories. The growth of the Division's clinical volumes has been related to our increased scope of services (addition of Heart Failure and Transplantation), expanding referral practice within Southern California and neighboring states, as well as to meeting previously unmet demand for services within the traditional referral regions. The Division's clinical volumes place the program among the largest pediatric and congenital heart disease centers in the United States.

CLINICAL PROGRAMS
The cardiology outpatient programs moved into the newly remodeled outpatient Heart Center which occupies approximately 22,000 square feet of space. The program is supported by all of the faculty/staff. Fellows are offered one-on-one educational and clinical teaching and mentoring. The Division provides a comprehensive accredited educational program for fellowship training in pediatric cardiology. Dr. Davis serves as the Fellowship Program Director, and the Program is supported by all of the faculty/staff. Fellows are offered didactic teaching and mentoring in all aspects of clinical cardiology. Patient care and evaluation, Interventional and ICU care, Electrophysiology, CT and MRI, Diagnostic and Interventional Cardiac Catheterization, Electrophysiology and Pacing, Exercise Physiology and Clinical Research. A broad schedule of lectures and presentations are included during the year including: Weekly Surgery Grand Rounds, Weekly Catheterization Conference, Weekly Core Lecture, and Monthly Journal Club and Research Meeting. The three-year program has full ACGME accreditation. The program currently has five ACGME approved positions. In addition, the program currently offers four ACGME approved positions in interventional cardiology. The Division has a non-invasive imaging, electrophysiology, and cardiology fellowship. Four of our current fellows are extending their training through these four year training opportunities.

The Division offers a four-year position for an Advanced Fellow in interventional congenital cardiology. This position includes training and experience in adult interventional cardiology and duration of the 4-year fellowship will be determined by the patient experience encountered. The four-year fellowship will include at least 2 years of training in adult interventional cardiology.

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RESEARCH ACTIVITIES

Paul Grossfield, MD
Dr. Grossfield's laboratory investigates the genetic basis of congenital heart defects in Jacobsen Syndrome (11q-). His research has led to the identification of the ETS-1 gene as a cause of heart defects in 11q-.

Using animal model systems, his research has determined that loss of ETS-1 causes impaired cardiac neural crest cell migration, likely due to impaired contract inhibition of locomotion, as the cause of conotruncal heart defects in 11q-.

This coincides with a change of cell fate from cardiac neural crest cells to cardiac myocytes. In addition, recent evidence has implicated a critical role for ETS-1 in regulating cardiac myocyte numbers during normal heart development. Loss of ETS-1 in a developing frog heart causes a dramatic increase in cardiac myocyte number with a concomitant loss of endothelial cells, resulting in a hypoplastic left heart syndrome-like phenotype.

Dr. Grossfield was recently awarded a prestigious Grant-Ins-Aid grant from the American Heart Association to continue to support this research.

This past year, Dr. Grossfield and his collaborators have identified the RICS (ARHGAP12) gene as a cause of autism in 11q-.

Studies in genetically engineered mice have demonstrated that treatment with a commonly used anti-angiogenic mediator, Cisplatin, ameliorates the autistic features in these mice, hopefully leading to a clinical trial on people with 11q- and autism in the near future.

Nigam Nigam, MD
Dr. Nigam's laboratory continues to make significant progress towards improving the understanding of hypoplastic left heart syndrome (HLHS) and identifying potential novel treatments for this very severe congenital heart defect.

The lab continues to be focused on elucidating the role of biomechanical stimuli play in normal and pathologic cardiac development. In the past year, the lab reported the novel finding that exposure to cyclic stretch is sufficient to increase proliferation and growth of embryonic cardiomyocytes. Currently, the lab is in the process of reporting a microRNA that is sufficient to increase cardiomyocyte proliferation in newborn mice. In addition, the lab in conjunction with Drs. Omens and McCulloch's laboratories has developed a first finite element model that has the potential to predict the left ventricular growth of human fetuses. Based upon this research progress, the National Institutes of Health (NIH) is awarding Dr. Nigam an R01 grant.

Dr. Nigam will be one of the few Pediatric Cardiologists in the country with a basic/translational science R01.

James Perry, MD
Dr. Perry's research spans a wide range of electrophysiology and congenital heart disease. Research, abstracts and publications reflect collaborative efforts with cardiology, pharmacology, aerospace and mechanical engineering and bioengineering colleagues. Dr. Perry's translational research work continues in the area of computational modeling of single ventricle physiology - an R01 was successfully obtained (“The Cardiac Atlas Project”) and continues with Drs. McCulloch and Omens of UCSD Bioengineering.

This grant encompasses all aspects of myocardial performance from the cell to the macro level in generating models of CHD that can be both predictive of new views of congestive failure and also manipulated to study the effects of interventions before they are done. Studies of intraventricular flow related to different electrophysiology states continue with Dr. Del Alamo of UCSD Mechanical and Aerospace Engineering.

Christopher Davis, MD, PhD
• Congenital Heart Surgeons' Society (CHSS) – Determining the Natural and “Unnatural” History of Anomalous Aortic Origin of a Coronary Artery with Intersitial or Intramural Course (AAOCa): Establishing a Multi-Institutional Registry (DC)
• Noninvasive measurement of cardiac output using impedance cardiography in patients with congenital heart disease (CT)
• Outcome of patients with one-and-a-half ventricles: a comparative assessment of cardiac function, exercise tolerance, morbidity, and mortality (R)

Thomas Do, MD
• The fate of the liver late following Fontan palliation: correlation of non-invasive liver assessment with liver biopsy and with cardiac status as measured by cardiac MRI and by catheterization-obtained hemodynamics (CT)

Howsida El-Said, MD, PhD
• ADO II Clinical Study
• Closure of Atrial Septal Defects with the AMPLATZER Septal Occluder (ASO) Post Market Surveillance Study (CT)
• Closure of Muscular Ventricular Defects with the Amplatzer Muscular VSD Occluder Post Approval Study (VPA) (CT)
• Coarctation of the Aorta Stent Trial (COAST) Phase I (CT)
• Congenital Cardiac Catheterization Project on Outcomes (C3PO) Quality Improvement Registry (QI)
• Congenital Cardiac Catheterization Outcomes Project - Quality Improvement (C3PO-QI) – Radiation Project (QI)
• Continued Access to Covered Cheatham-Platinum Stent for Prevention or Treatment of Aortic Wall injuries Associated with Aortic Coarctation Continued Access (COAST II CA) (CT)
• Correlation of Magnetic Resonance Elastography with Transjugal Hepatic Biopsy in Fontan Patients (R)
• Covered-Cheatham-Platinum Stent for Prevention or Treatment of Aortic
• Damus-Kaye Stansel (DKS) Surgical Procedure: Long-term Follow-up of Survivors and Analysis of Possible Sequelea (R)
• Damus-Kaye Stansel (DKS) Surgical Procedure: Quality of Life After DKS (DC)
• Examining the Effect of Introducer Sheath Length on Incidence of Arterial Occlusion in Pediatric Femoral Artery Cardiac Catheterizations (R)
• Examining the Effect of Introducer Sheath Length on Incidence of Arterial Occlusion in Pediatric Femoral Artery Cardiac Catheterizations – Part II (R)
• Immediate, Short, and Intermediate-term Effects of Balloon:Aminus Ratio on Pressure Gradient Change on Incidence of Pulmonary Regurgitation
• Implantation of the Medtronic Melody Transcatheter Pulmonary Valve (TPV) in Patients with Dysfunctional Right Ventricular Outflow Tract (RVOT)
• Melody valve implantation a single center study; outcome, complications and technical aspects (R)
• NCDR - American College of Cardiology IMPACT Registry (QI)
• Pulmonary Artery Repair with Covered Stents (PARCS): The Use of Covered Cheatham Platinum Stents for Repair of Right Ventricular to Pulmonary
• Single center experience comparing the use of transesophageal echocardiography (TEE) versus transesophageal echocardiography (TEE) for guidance of Amplatzer Septal Occluder (ASO) device placement in trans-catheter atrial septal defect closure (ASD) in children (R)
• The fate of the liver late following Fontan palliation: correlation of non-invasive liver assessment with liver biopsy and with cardiac status as measured by cardiac MRI and by catheterization-obtained hemodynamics (CT)
• The Role of Cardiac Catheterization Following Single Ventricle Surgical Palliation: Characteristics and Outcomes – Part II (R)
• Transcatheter Outcomes of Stenting of Blalock-Taussig Shunts and Congenital Heart Disease (R)

Brian Fagan, MD
• Congenital Cardiac Catheterization Project on Outcomes (C3PO)
Jeffrey Fraser, MD
Outcomes in Preterm and Low Birthweight Newborns Undergoing Cardiac Surgery

Paul Goessfeld, MD
Cardiovascular and Musculoskeletal Assessment of Elite U.S. Volleyball Players (CS)

Sanjeev Hegde, MD, PhD
- SPRKLS02: Echocardiographic Assessment of Left Ventricular Strain, Torus
- The Cardio Atlas Project (DC)

Delaram Melkana, MD
- Single center experience comparing the use of transcutaneous echocardiography (TTE) versus transesophageal echocardiography (TEE) for assessment and guidance of transcatheter devices
- MRI Imaging, Echocardiographic Imaging, and Computational Simulation of Cardiovascular Physiology (DC)

James Perry, MD
- Congenital Cardiac Catheterizations Project on Outcomes (C3PO) Quality Improvement Registry (QI)
- The Cardio Atlas Project (DC)

Beth Printz, MD, PhD
- SPRKLS02: Echocardiographic Assessment of Left Ventricular Strain, Torus
- The Cardiac Atlas Project (DC)

Brett Printz, MD, PhD
- SPRKLS02: Echocardiographic Assessment of Left Ventricular Strain, Torus
- The Cardiac Atlas Project (DC)

Christopher Davis, MD, PhD

David L. Moise, Jr.

Sanjeev Hegde, MD, PhD

Brett Printz, MD, PhD
- SPRKLS02: Echocardiographic Assessment of Left Ventricular Strain, Torus
- The Cardiac Atlas Project (DC)

Christopher Davis, MD, PhD

Sanjeev Hegde, MD, PhD

Christopher Davis, MD, PhD


Jeff Frazier, MD

Paul Grossfeld, MD


Dr. Sanjeet Hegde


Delaram Molkara, MD

Vishal Nigam, MD


James Perry, MD

Bratincsák A, Williams M, Kimata C, Perry JC. The Electrocardiogram Is A Poor Diagnostic Tool to Detect Left


Mallula K, Maeda K, Tyan DB, Chen S, Kaufman BD, BERDAR ARDS & HONORS


The cardiac surgeons participate in the following teaching activities:

- Teaching residents and medical students at UCSD Medical Center, Kaiser Permanente Medical Group, Honolulu, Hawaii; Straub Clinic and Medical Center, Honolulu, Hawaii; Kapiolani Medical Center for Women and Children, Honolulu, Hawaii; Tripler Army Medical Center, Honolulu, Hawaii; the San Diego Regional Kaiser Medical Center; Tripler Army Medical Center, Orange and Imperial counties; the Naval Medical Center, San Diego; and the Kaiser Permanente Medical Group, Honolulu, Hawaii. The Division’s surgical volume for the 2013-2015 fiscal years was 1,391 cases. The faculty provides consultative services at UCSD Medical Center, RCHSD, Sharp Mary Birch Hospital and at all referral sites in Hawaii. In addition, faculty members provide varying levels of support for adult patients with congenital heart disease undergoing treatment at all of the adult hospitals in San Diego county.

- The Division participates in multiple longitudinal studies of congenital heart defects in a multi-center collaborative effort. The studies are designed to evaluate the natural history, including before and after surgical therapy, of relatively rare congenital heart defects in a multi-center collaborative effort.

- John Lamberti, MD
  The Division participates in multiple longitudinal studies of congenital heart disease sponsored by the Congenital Heart Surgeons Society. Dr. John J. Lamberti is the principal investigator on multiple clinical protocols involving complex congenital heart defects. The studies are designed to evaluate the natural history, including before and after surgical therapy, of relatively rare congenital heart defects in a multi-center collaborative effort.

- Eric J. Devaney, MD
  Dr. Devaney has a strong interest in basic science, clinical research and cardiac transplantation. Dr. Devaney has been instrumental in the creation of a cardiovascular ICU (GVICU) at RCHSD. Dr. Devaney is responsible for the recruitment of personnel and the creation of the infrastructure that will permit RCHSD to begin cardiac transplantation in 2014. Dr. Devaney is a member of the RCHSD Research Council.

RESEARCH SUPPORT

- John Lamberti, MD
  STARFIS in Atrial Septal Defect. Long-term Status Assessment of Patients. $2,900
  “Following Closure of ASD with the STARFlex Septal Occlusion System in Ide Study”
  G 68086 (SALSA)MS MEDICAL INC. Sept. 2007-Indefinite
  $198,865
  Johns Hopkins University
  “Coarctation of the Aorta Total (COAST)”
  Closure of Muscular Ventricular Septal Defects with the Amplatzer Muscular VSD $26,800
  Occluder-Post Approval Study (Muscular VPSA) Sept. 2008-Indefinite
  AGA Medical Corporation

- Eric Devaney, MD
  K08 HL08618-01 2009-2014: $82,000
  NIH K08 Mentored Scientist Award
  “Genetic Modification of Cardiac Motor Proteins in Normal and Failing Mice”

Surgical Research Grant

- 2014-2016 $50,000
- Rady Children’s Hospital, San Diego
- “Plastic Key Stem Cells from Human Thymus”

PUBLICATIONS


AWARDS & HONORS

- John Lamberti, MD
  2009-2013, Castle Connolly, Americar Top Doctors

- Eric J. Devaney, MD
  2007-2014, Lead Surgeon, Annual Relief Mission, Arturo Grollon Children’s Hospital, Santiago, Dominican Republic and Bloom Hospital, San Salvador, El Salvador
Hematology/Oncology
INTRODUCTION

The Division of Hematology/Oncology provides state-of-the-art care in the Peckham Center for Cancer and Blood Disorders. The Division serves patients in all of San Diego and Imperial counties, and in Southwest Riverside County.

Through the UC San Diego Moores Cancer Center, the Division is part of a National Cancer Institute designated Comprehensive Cancer Center. The Division of Pediatric Hematology/Oncology is also devoted to basic, translational, and clinical research, experimental therapeutics, and medical education.

The Division has the following programs:

• Stem Cell Transplantation Program and Comprehensive Clinic
• Sickle Cell Disease Program and Comprehensive Clinic
• Hemophilia Program and Comprehensive Clinic
• Neuro-Oncology Program and Comprehensive Clinic
• Long-Term Follow-Up Program and Comprehensive Clinic
• Palliative/Supportive Care Program, funded by a grant from the Peckham Family Foundation
• Integrative Medicine Program
• Comprehensive Psychosocial Services Program, funded in part by the Celebration of Champions through the Rady Children’s Hospital Auxiliary

In July 2007, an alliance was formed between St. Jude Children’s Research Hospital, RCHSD and UCSD. The alliance focuses on the development of clinical, translational, and basic research in the area of childhood cancer. Several joint clinical trials are available to the children in San Diego. Also, joint efforts in international outreach have led to the creation of successful Pediatric Oncology Programs in Tijuana and La Paz, Mexico.

Division faculty are actively involved in teaching through the UCSD/RCHSD Pediatric Residency Program and the UCSD School of Medicine. The division has a Pediatric Hematology/Oncology Fellowship Program accredited by the ACGME, which accepts two new fellows per year in to the three-year program.

DIVISION FAST FACTS

Affiliated with St. Jude Children’s Research Hospital for nearly a decade

Over 14,000 outpatient visits per year

MAJOR PLANS AND GOALS

Leveraging the resources of the newly created Rady Genomic Institute, we will comprehensively sequence all newly diagnosed and relapsed/refractory brain tumors at RCHSD, and collect a diverse array of information about each patient’s tumor to guide therapy. At the time of surgery, each patient’s tumor will be subjected to high-throughput drug screening to provide empirical evidence for therapies that may be effective.

Tumor tissue will be orthotopically transplanted into mice to create xenografts that can serve as tools for further drug discovery and preclinical testing. Each patient’s genomic and drug response data will be reviewed by a molecular tumor board consisting of physicians and scientists, and the most promising therapies will be prioritized for clinical use. Every patient will be enrolled in an “n-of-1” clinical trial, and ideally, each patient will receive the most appropriate therapy for his or her tumor.

Planning for the expansion of the Early Phase Oncology Clinical Trials Program is underway. This will allow us to offer a wider variety of therapeutic clinical trials to all relapsed and refractory oncology patients. Drug development in laboratories at UCSD is providing the opportunity to study promising agents that have the potential to offer increased efficacy and decreased side-effects.

A Clinical Care Re-Design task force is planned, which will closely examine all aspects of the patient experience at the Peckham Center for Cancer & Blood Disorders, including the important unit clinic. We will ensure the efficiency and efficacy of the diagnostic and therapeutic interventions for our patients, including medical and psychosocial care.
The clinical program is housed in the RCHSD Acute Care Pavilion, occupying the entire second floor with a 38-bed inpatient unit, which includes a 12-bed oncology unit. The facility contains an infusion center, procedure room, and exam rooms. The Divisional Hematology/ Oncology center is adjacent to the Center and provides comprehensive care for illness, adolescent, and conference rooms. The clinical team is made up of hematology/oncology physicians, nurse practitioners, nurses, physical therapists, psychologists, social workers, and child life specialists for parent liaison, dieters, and translators.

There are over 14,000 outpatient visits per year and an average daily inpatient census of 35 patients. Approximately 2,530 new oncology patients are diagnosed per year, 1,275 patients are seen per year in the Sickle Cell Disease/Hemoglobinopathy program, and over 400 patients are seen in the Hemophilia/Bleeding Disorder Program. Thrombosis and Venous Thromboembolism are performed each year. The program is a National Marrow Donor Program (NMDP) Unrelated Donor Transplant Center, and has achieved accreditation by the Foundation for Accreditation of Cellular Therapists (FACT). The HSCCT, which includes facilities at RCHSD, and UCSD medical students. Clinical teaching occurs for pediatric residents, other residents and fellows working at RCHSD and UCSD medical students. Teaching occurs in the inpatient and outpatient setting. The faculty provides formal teaching to the pediatric oncology Fellowship Program and a member of the Fellowship Scholarship Oversight Committee.

Courtney Thornburg, MD is an advisor for fellows in the Hematology/Oncology Fellowship Program.

Sun Choo, MD is an Associate Director of the Hematology/Oncology Fellowship Program and a member of the Fellowship Scholarship Oversight Committee.

Janet Yoon, MD is an advisor for fellows in the Hematology/Oncology Fellowship Program.

Jenny M. Kim, MD is an advisor for fellows in the Hematology/Oncology Fellowship Program. She is a CPCR Preceptor for UCSD/RCHSD pediatric residents.

Dennis Kuo, MD is the Program Director for the Hematology/Oncology Fellowship Program. Deborah E. Schiff, MD serves as a faculty advisor and director for UCSD medical and pharmacy student independent study projects. She is also an advisor for fellows in the Hematology/Oncology Fellowship Program and a member of the Fellowship Scholarship Oversight Committee.

Jennifer Yu, MD is an Associate Director of the Hematology/Oncology Education and Training Programs, and an advisor for fellows in the Hematology/Oncology Fellowship Program.

John R. Crawford, MD is the Director of the Hematology/Oncology Fellowship Program for the Mayo Clinic in Rochester, Minnesota. He is also the director of the Pediatric Oncology Consortium, which includes Drs. Diccianni and Batova. Their research focuses on the role of immune effector cells in immunotherapy of cancer, the role of micro-RNA in leukemias, and novel therapy of cancer targeting molecular abnormalities associated with the 11q23 translocation.

Jenny M. Kim, MD is the Director of the RCHSD Comprehensive Sickle Cell Disease and Hemoglobinopathy program.

Dennis Kuo, MD is the Director of the Long Term Follow-up Program for Cancer Survivors and the Hematology/Oncology Education and Training Programs.

William D. Roberts, MD, MS is the Division Chief for Hematology/Oncology. He is a founding member of the Neuroblastoma & Metastatic pediatric neoplasm Program (NMTR) and the RCHSD/UC San Diego site PI. He is a co-investigator for the following NMTR clinical trials: NMTR010: A Phase II Trial of Cisplatin in Patients with Neuroblastoma. NMTR009: Phase II Trial of Vincristine and Dacarbazine for Patients with High Risk Neuroblastoma in Remission. NMTR025: Molecular-based therapy for the treatment of patients with relapsed and refractory childhood cancers, NMTR011: A Phase I Trial of Tocapone alone and in combination with Oxaliplatin in Patients with Relapsed/Refractory Neuroblastoma or Medulloblastoma Medicine. NMTR012: The Human Tumor Registry (HTRR) is a multi-center study of the role of hydroxyurea in the management of sickle cell disease. She was the first author on a publication in Blood describing medication and visit adherence, the first author on a publication in Pediatric Blood and Cancer describing medication and visit adherence, the first author on a publication in Blood describing medication and visit adherence.
Paula Arístizábal, MD, MS

(PI) 5/2013-present
485,000
International Community Foundation
"Establishing a "Twining" program in pediatric oncology in Baja California Sur"

(Co-PI) 1/2009-1/2016 $440,000
Sanofi-Espoir Foundation
"Establishing a surveillance system in pediatric oncology in Colombia"

(Co-PI) 11/2008-ongoing $220,000
St. Jude Children’s Research Hospital-Rady Children’s Hospital Joint International Outreach Program
"Establishing a "Twining" program in pediatric oncology in Baja California, Mexico"

(PI) 11/2014-12/2015 $30,000
American Cancer Society- Institutional Research Grant
"Outcomes of informed consent in pediatric oncology: A feasibility pilot study"

Racial/ethnic disparities in pediatric oncology clinical trial enrollment at Rady Children’s Hospital

(PI of associated research) 11/2012-6/2015 $240,000
National Cancer Institute Diversity Supplement to the Specialized Cancer Center Support Grant

(PI) 6/2015-9/2015 $5,000
NIH Short Term Research Training Grant Vitamin D deficiency in pediatric cancer patients: Supplementation and clinical outcomes in newly diagnosed patients and survivors.

(PI) 6/2014-9/2014 $5,000
National Institutes of Health Short Term Research Training Grant Implementation of a "Twining Program in Pediatric Oncology at the U.S.-Mexican border.

Sun Choo, MD

National Institutes of Health Loan Repayment Program $35,000/year loan repayment July 2014 - Current

July 2014 - Current $50,000
Rady Children’s Intramural Research Grant
Research Funding for "Developing a Novel Therapeutic Approach for Ewing’s Sarcoma Metastasis" project

July 2013 –Current $123,149
St. Baldrick’s Fellow Grant
Research Funding for "Developing a Novel Therapeutic Approach for Ewing’s Sarcoma Metastasis" project

Donna L. Durden, MD, PhD

RO1 FD004385-01A2 (PI) 7/01/14-6/31/2018 $258,000
"Phase II trial of poly-ICLC in pediatric low grade glioma"

(CO-I with NANT consortium)) 7/01/14-6/31/18 $270,000
St. Baldrick’s Foundation Grant
Funding for Phase I trial of SF1126 (First PI-3K inhibitor in pediatrics oncology)

T32-121958 (Faculty mentor and Co-L Howell PI) T32 and K12 UCSD Training Grant in Drug Development

(PI) 10/01/13-9/01/15 $125,000
Hyundai Hope Grant

R21CA173330-A1 (PI) 7/01/2013-6/30/2015 $250,000
NDI "Nanoparticle enabled L-asparaginase therapy for CLL"

(PI) 5/01/2013-4/30/2015 $50,000
UCSD Department of Pediatrics Genomics Grant
"Genomics of Sickle Cell Disease"

R21CA173330-A1 (Co-I) 7/01/2013-6/30/2015 $250,000
"Nanoparticle enabled L-asparaginase therapy for CLL"

Cricket Corporation, Inc. 05/2014 – 04/2015 $75,000
Poly-ICLC in Management of Recurrent Low Grade Gliomas (Phase II). Donald L. Durden, M.D., Ph.D., Principal Investigator (multicenter trial) (Biology study: TLR3 stimulation of innate and adaptive immune response against the tumor is the mechanism for polyIC antitumor activity). This is a form of immunotherapy under study in the Durden laboratory (open to enrollment, Clinicaltrials.gov: NCT01188096). R01 FDA FD-01485 grant funded 2014, $1.8M, (IRB 101780). 11 patients enrolled, 50% response rate so far. https://www.clinicaltrials.gov/ct2/results?term=polyICLC+and+pediatrics&Search=Search


Jenny Kim, MD

EXJADE (Deferasirox, ICL670) (PI) 2010-2014
Novartis
"A 3-year, Prospective, Non-Interventional Multicenter Registry in Sickle Cell Disease Patients"

(PI) 2011 – Present $10,000
UCSD Clinical and Translational Research Institute "Biomarkers of Human Sickle Cell Disease"

(Co-I) 2014 – Present
ADVENTRX Pharmaceuticals/Mast Therapeutics Inc.
"Evaluation of purified poloxamer 188 in vaso-occlusive crisis of sickle cell disease (EPLC)"

Dennis Kuo, MD

(PI) 10/2013 – 09/2014 $75,000
Hyundai Hope on Wheels
Leukemia”

“Chemotherapy with Low-Dose Radiation for Pediatric Hodgkin

Present

Lymphoma”

SJ MEL08 (RCBDS PI) 2010 – 2015

“Pegyl2a II Study Incorporating Pegylated Interferon in the Treatment for Children with High-Risk Melanoma”

Jing Yang, PhD

VEG2-09-282-01-CSM (PI: Yang) 01/01/2010 – 12/31/2015

American Cancer Society

“In vivo activation of Twist in breast cancer metastasis”

Ro1CA68869-01 (PI: Yang) 09/01/2012 – 06/30/2017

NIH (NCI)

“Regulation of Tumor Invasion by Twist2”

W41XVH13-1-011-032 (PI: Yang, Partnering PI: Engler) 09/01/2013 – 05/31/2016

NIH (NIEHS)

“Dissecting molecular determinants of carcinoma dormancy in vivo”

PI 07/01/2012 – 12/31/2014

The Hartwell Foundation

“Targeting Neuronal Migration Program to Treat Ewing’s Sarcoma Metastases”

Janet Yoon, MD

(Co-PI) 09/01/2012 – 05/31/2014

Pacific Pediatric Neuro-Oncology Consortium, University of California San Diego, Rady Children’s Hospital

PNOC 001(PI) 2014 –

“Phase II study of Erolimus for recurrent or progressive low-grade gliomas in children”

Jennifer Yu, MD

(Co-I) 09/01/2012 – 05/31/2014

Present

Biomarkers in Human Sickle Cell Disease, Clinical Trial

(Co-I) 2014 – 2015


NA Chaug, YM Yoon, RO Crawford, Newy Glia: Multiforme Arising from Dysplastic Neuroepithelial Tumor in a Child in the Absence of Therapy. Pediatr Hemotol Oncol. 2013 Dec 4 (was C2.)


NA Chaug, YM Yoon, RO Crawford, Newy Glia: Multiforme Arising from Dysplastic Neuroepithelial Tumor in a Child in the Absence of Therapy. Pediatr Hemotol Oncol. 2013 Dec 4 (was C2.)


Donald L. Durden, MD, PhD


Courtney Thornburg, MD, MS


AWARDS & HONORS

M. Paula Aristizabal, MD, MS
"Best SIOP Poster" Award, 45 Congress International Society of Pediatric Oncology, Hong Kong – 2015
"AACR Scholar-in-Training Award", Center to Reduce Cancer Health Disparities of the National Cancer Institute, American Association for Cancer Research – 2014
Puentes Symposium Scholar Award. 2015 Puentes Consortium Rice University – 2015
University of California Office of the President "Team Science" Scholar – 2015

John R. Crawford, MD, MS
2013: Junior Faculty Teaching Award Department of Neurosciences, University of California, San Diego
2014: Junior Faculty Teaching Award Department of Neurosciences, University of California, San Diego
2015 Senior Faculty Teaching Award Department of Neurosciences, University of California San Diego
2015 Leonard Tow Humanism Award in Medicine Nominee
2015 “Top Pediatric Neurologist” San Diego Magazine

Donald L. Durden, MD, PhD
Editorial Board, Molecular Cancer Research (MCR)(AACR), 2015

Jenny M. Kim, MD
US News Top Doctor – Pediatric Hematology and Oncology, Anemia, Sickle Cell Disease, 2013
San Diego Magazine Top Doctor – Pediatric Hematology and Oncology; 2014

Dennis Kuo, MD, MS
Alpha Omega Alpha Honor Medical Society, April, 2015

William D. Roberts, MD
Rady Children’s Hospital Annual Excellence in Clinical Care Award, 2015

Jing Yang, PhD
01/2010 – 12/2015 American Cancer Society Research Scholar
05/2012 – 04/2015 The Hartwell Foundation Investigator

Janet Yoon, MD
San Diego Magazine Top Doc, Pediatric Hematology/Oncology, 2015
INTRODUCTION

The Division of Pediatric Hospital Medicine (PHM) began in 1978 by Dr. Irvin “Buzz” Kaufman and is considered the oldest pediatric program in the nation. The Division continues to serve patients needing comprehensive general inpatient care and to teach future physicians the art and science of inpatient medicine. The Division provides inpatient care at Rady Children’s Hospital-San Diego (RCHSD), Palomar Medical Center, located in the northeastern part of San Diego County; and Sharp Grossmont Hospital, located in the eastern part of San Diego County. These facilities are part of the larger Rady Children’s Hospital and Health Center (RCHHC) system in San Diego and Riverside counties. The hospitalists serve as a regional clinical resource for community physicians and emergency departments to determine the need for acute care admission, discuss alternatives to admission, and provide a second opinion for patients with diagnostic challenges.

All PHM members are board-certified pediatricians with acquired expertise in different fields of hospital medicine and half have at least 10 years in PHM. Most have had additional post-residency training through Chief Residency and/or fellowship or subspecialty certification including hospice and palliative care medicine, clinical dermatology, critical care and pediatric hospital medicine. The Division developed one of the first 3 PHM Fellowship training programs in the country, and has been involved in national work for committees and societies that advance care of pediatric inpatients such as the Children’s Hospital Association, Institute for Healthcare Improvement, American Academy of Pediatrics and others. The hospitalists work closely with hospital staff and administrative leadership to optimize patient care and resource use across the healthcare system. The Division is proud to be the inpatient care providers for the vast majority of asthmatic inpatients in the county and thereby help the hospital receive superior scores in US News and World Report for “success with asthma inpatients” and “management of asthma patients.”

FACULTY

Erin Stucky Fisher, MD, MHM
Clinical Professor of Pediatrics
Intern Chief
PHM Fellowship Director

Julia Beauchamp-Walters, MD
Clinical Professor of Pediatrics

Laurie Bernard-Stover, MD
Clinical Professor of Pediatrics; PHM Clinical Director

Melissa Cameron, MD
Staff Physician

Ami Doshi, MD
Associate Clinical Professor of Pediatrics

Paul Parker, MD
Staff Physician

Weijen Chang, MD
Staff Physician

Jennifer L. Davis, MD
Assistant Clinical Professor of Pediatrics

Dahlia Gardner, MD
Fellowship Director

Feiyue Li, MD
Clinical Professor of Pediatrics

Elizabeth Mannino Avila, MD
Assistant Clinical Professor of Pediatrics

Sara M. Marchese, MD
Associate Clinical Professor of Pediatrics

Brian Williams, MD
Assistant Clinical Professor of Internal Medicine and Pediatrics

Pamela Thomas, MD
Clinical Professor of Pediatrics

Erin Stucky Fisher, MD, MHM
Clinical Professor of Pediatrics

Heather Pierce, MD
Associate Clinical Professor of Pediatrics

Kuang Pham, MD, MS
Assistant Clinical Professor of Pediatrics; PHM Research Director

Melissa Cameron, MD
Staff Physician

Kyung Rhee, MD, MSc
Associate Clinical Professor of Pediatrics; PHM Research Director

Heather Pierce, MD
Associate Clinical Professor of Pediatrics

Community Site Physicians:

Priya Jain, MD
(photograph not available)

Sara Rourke, MD
(photograph not available)

DIVISION FAST FACTS

$1.3 Million in Research Grants

Over 5,000 admissions & 1,200 emergency transports coordinated

MAJOR PLANS AND GOALS

To continue to provide excellence in clinical care, education, quality improvement, research, and advocacy on and for hospitalized infants, children, and adolescents.

To evolve existing clinical service lines and help advance the Accountable Care Model to meet the needs of our patients.

To initiate new programs, such as include sonography, telemedicine, and care of the adult aged patient, fellowship and academic work, and will develop these areas via new faculty hiring and other collaborations.
The hospitalists fulfill many local leadership roles including:
• for RCHSD/Medical Practice Foundation: Board of Directors, Billing, Credentialing and Quality, Contracts, Marketing, Service lines (Digestive, Respiratory),
• for RCHHC: Anaesthesia Services, Antimicrobial stewardship, Bioethics, Clinical Leadership Council, Code Blue, Information Technology, Infection Control, Medical Staff Executive, multiple Morbidity and Mortality Conferences, Network Governance (Clinical), Pediatric Leadership Council, Pediatric Department, Pharmacy and Therapeutics, Quality Improvement, Quality Safety Operations Council, Telemedicine and Value Analysis;
• for UCSD School of Medicine and the Department of Pediatrics: Academy of Clinician Scholars, Academic Review and Appraisal, Clinical Clerkship, Graduate Medical Education, Resident Intern Applicant Selection, Resident Clinical Competency Assessment.

Nationally, members serve in leadership roles for the following organizations:
- American Academy of Pediatrics
- Joint Council for Pediatric Hospital Medicine (AAP, SHM and Academic Pediatric Association joint body)
- Society of Hospital Medicine (SHM) Pediatrics Committee, SHM Board
- Expert panels such as the Mount Sinai Collaboration to Advance Pediatric Quality Measures (CAPQuaM) Expert Panel and Medically Fragile Children Subacute Unit (JB)
- Medical Director, Palomar and Sharp Grossmont Pediatric Units (ESF)
- Medical Director, Home Care Services (JB)
- Medical Director, Inpatient Services (LBS)
- Medical Director, Quality Improvement (ESF)
- Medical Director, Narkewicz Center for Medically Fragile Children Subacute Unit (JB)
- Medical Director, Palomar and Sharp Grossmont Pediatric Units (ESF)
- Medical Staff, Department of Pediatrics Chair (LBS)
- Medical Staff, Chair, Pharmacy and Therapeutics Committee (DHI)
- Medical Staff, Chair, Quality Improvement Committee (ESF)
- Medical Staff, Chair, Sedation Services Outside the Operating Room (DHI)

In addition, hospitals serve as members of key committees including:
- for RCHSD/Medical Practice Foundation: Board of Directors, Billing, Credentialing and Quality, Contracts, Marketing, Service lines (Digestive, Respiratory),
- for RCHHC: Anaesthesia Services, Antimicrobial stewardship, Bioethics, Clinical Leadership Council, Code Blue, Information Technology, Infection Control, Medical Staff Executive, multiple Morbidity and Mortality Conferences, Network Governance (Clinical), Pediatric Leadership Council, Pediatric Department, Pharmacy and Therapeutics, Quality Improvement, Quality Safety Operations Council, Telemedicine and Value Analysis;
- for UCSD School of Medicine and the Department of Pediatrics: Academy of Clinician Scholars, Academic Review and Appraisal, Clinical Clerkship, Graduate Medical Education, Resident Intern Applicant Selection, Resident Clinical Competency Assessment.
Host-Microbe Systems & Therapeutics
INTRODUCTION

The Division of Host-Microbe Systems & Therapeutics brings together a diverse group of scientists and physicians performing interdisciplinary research to understand the interactions of humans and the microbial world in both health and disease. Fundamental principles of microbiology, immunology, pharmacology, -OMICs (genomics, proteomics, metabolomics, and the human microbiome) and systems biology are brought to bear in understanding the pathogenesis of common childhood infectious diseases and inflammatory disorders. This insight inspires innovative discovery programs and translational studies of new drugs and interventions to restore optimal health in childhood and throughout life.

Our Division is the headquarters of the NIH/NICHD Sponsored Research Program in Developmental Pharmacology (RPDP), NIH/NIAID Funded Program in the Systems Biology of Antimicrobial Resistance, UCSD campus-wide Center for Microbiome Innovation (CMI), and the Collaborative to Hal Antibiotic-Resistant Microbes (CHARM). Division members also interact closely with the UCSD Center for Drug Discovery Innovation (CDDI).

Our basic and translational research programs in infection biology that provide new insights into the molecular basis of microbial pathogenesis and the function of host immunity, with a focus on exploiting these discoveries for new treatment strategies. Novel therapies are sought from genome-driven high throughput chemical biology screens, systems biology approaches, targeted neutralization of virulence phenotypes, pharmacologic augmentation of innate host functions, modulation of host inflammatory responses, reversal of antimicrobial resistance phenotypes and prophylactic vaccines.

The Division has a robust Pharmacometrics Unit, recognized internationally for its leadership in pharmacokinetic and pharmacodynamic modeling, including sparse data collection techniques and population analysis methodologies that enable appropriate dosing in pediatric subpopulations. The UCSD Pharmacometrics Unit leads the NICHD Pediatric Trials Network (PTN) in clinical pharmacology modeling and simulation activities and supports other multi-center and collaborative research projects. The Pediatric Pharmacology Laboratory (PFL), a dynamic working unit with the capability, experience and expertise to analyze quantitative and qualitatively a large number of drugs in a variety of sample matrices, including many core services for the NIAID/NIH International Maternal Pediatric Adolescent AIDS Clinical Trials Network (IMPAACT) pharmacology program.

The microbes that normally inhibit our gut, skin and mouth provide 99% of our body’s gene content, and function to help us digest and process nutrients, while generating their own waste and metabolites. Importantly, these microbes constantly interact with, and help shape, our immune systems. It is now recognized that the makeup of our microbiome influences diseases including food allergies, obesity, inflammatory bowel disease, colon cancer, rheumatoid arthritis, atherosclerosis, asthma and even the brain function and behavior. Microbial communities we encounter in the home, hospital and outdoor environments further influence our health status. Understanding our microbiome and its role in human health can inspire novel diagnostic, preventative and therapeutic interventions. Indeed, the rich chemical and metabolic diversity of the microbiome is itself a promising source for new drug discovery.

The Division of Host-Microbe Systems & Therapeutics is bringing together a diverse group of scientists and physicians performing interdisciplinary research to understand the interactions of humans and the microbial world in both health and disease. Fundamental principles of microbiology, immunology, pharmacology, -OMICs (genomics, proteomics, metabolomics, and the human microbiome) and systems biology are brought to bear in understanding the pathogenesis of common childhood infectious diseases and inflammatory disorders. This insight inspires innovative discovery programs and translational studies of new drugs and interventions to restore optimal health in childhood and throughout life.

Our Division is the headquarters of the NIH/NICHD Sponsored Research Program in Developmental Pharmacology (RPDP), NIH/NIAID Funded Program in the Systems Biology of Antimicrobial Resistance, UCSD campus-wide Center for Microbiome Innovation (CMI), and the Collaborative to Hal Antibiotic-Resistant Microbes (CHARM). Division members also interact closely with the UCSD Center for Drug Discovery Innovation (CDDI).

Our basic and translational research programs in infection biology that provide new insights into the molecular basis of microbial pathogenesis and the function of host immunity, with a focus on exploiting these discoveries for new treatment strategies. Novel therapies are sought from genome-driven high throughput chemical biology screens, systems biology approaches, targeted neutralization of virulence phenotypes, pharmacologic augmentation of innate host functions, modulation of host inflammatory responses, reversal of antimicrobial resistance phenotypes and prophylactic vaccines.

The Division has a robust Pharmacometrics Unit, recognized internationally for its leadership in pharmacokinetic and pharmacodynamic modeling, including sparse data collection techniques and population analysis methodologies that enable appropriate dosing in pediatric subpopulations. The UCSD Pharmacometrics Unit leads the NICHD Pediatric Trials Network (PTN) in clinical pharmacology modeling and simulation activities and supports other multi-center and collaborative research projects. The Pediatric Pharmacology Laboratory (PFL), a dynamic working unit with the capability, experience and expertise to analyze quantitative and qualitatively a large number of drugs in a variety of sample matrices, including many core services for the NIAID/NIH International Maternal Pediatric Adolescent AIDS Clinical Trials Network (IMPAACT) pharmacology program.

The microbes that normally inhibit our gut, skin and mouth provide 99% of our body’s gene content, and function to help us digest and process nutrients, while generating their own waste and metabolites. Importantly, these microbes constantly interact with, and help shape, our immune systems. It is now recognized that the makeup of our microbiome influences diseases including food allergies, obesity, inflammatory bowel disease, colon cancer, rheumatoid arthritis, atherosclerosis, asthma and even the brain function and behavior. Microbial communities we encounter in the home, hospital and outdoor environments further influence our health status. Understanding our microbiome and its role in human health can inspire novel diagnostic, preventative and therapeutic interventions. Indeed, the rich chemical and metabolic diversity of the microbiome is itself a promising source for new drug discovery.

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Dr. Adriana Tremoulet attends on the inpatient infectious disease service, as well as the Kawasaki disease service. She also provides consults for infectious diseases and Kawasaki disease patients in the outpatient setting. Dr. George Sakoulas is an adult infectious diseases specialist who provides consults to patients with complicated infectious disease presentations and antibiotic resistance problems in the inpatient and outpatient settings.

TEACHING ACTIVITIES

#### CLINICAL ACTIVITIES

**Victor Nizet, MD** is the mentor of more than a dozen postdoctoral fellows and is a principal investigator in his basic research laboratory, and 15 students have completed the PhD degree in his laboratory. He is a Track Leader for Microbiome and Microbial Sciences in the UCSD Biomedical Graduate Program, Section Leader for the Biomedical Sciences 200 Course (Fall Quarter), Course Director for the Biomedical Sciences course Microbial Pathogenesis & Host Response (BOM 253), Vice Chair for Basic Research in the Department of Pediatrics, a member of the UCSD Graduate Council, and on the Leadership Team of the National Center for Leadership in Academic Medicine, a junior faculty development program.

**Edmund Capparelli, PharmD** teaches pharmacology topics to both pharmacy and medical students in the School of Medicine and the Skaggs School of Pharmacy and Pharmacetical Sciences. During the past year, Dr. Capparelli delivered lectures and led workshops in Clinical Pharmacology and helped to develop the Children’s Health and Education Research Symposium (CHERS) for UC San Diego Pediatric Post-docs. He also taught pharmaceuticokinetics-pharmacodynamics and microbiology to 202B fellows through a live lecture and webinar series and population pharmacokinetics modeling seminar series post-docs in the UC San Diego – Pieters Clinical Pharmacology Fellowship Program.

**Brooke M. Best, PharmD, MAS** teaches biopharmaceutics and Clinical Pharmacokinetics and Pharmacodynamics at the University of California San Diego to first-year student pharmacists in the UCSD Skaggs School of Pharmacy and Pharmacetical Sciences. Dr. Best is also a Principal Investigator of an NICHD-supported T32 training grant for Predoctoral Student Research in Pediatric and Maternal Pharmacology.

**Kerry Doran, PhD** has supervised excellent postdoctoral fellows, PhD and master’s students and undergraduates in her laboratory. She teaches in the UCSD SOM 218 Microbiology laboratory course and gave special lectures in a course in Integrative Microbiology and 4 guest lectures (Fall and Winter Quarters) in the course in Bacteriology (BDM 120) in UCSD Biological Sciences. For the last 5 years, she has lectured and led interactive sessions in the Biomedical Sciences 253 graduate course “Pathogens and Host Defense” at UCSD and teaches the UCSD Department of Biological Sciences course BMM 22B Microbiology. As part of her primary appointment at San Diego State University, she teaches in several courses: General Microbiology (BIO 350), Medical Microbiology (BIO 354) and Seminar in Molecular Biology (MB 600).

**Pieter Dorrestein, PhD** teaches extensively in the curriculums of the School of Medicine, School of Pharmacy and Department of Chemistry and Biochemistry. He lectures in the courses on Proteomics, Metabolomics, Mass Spectrometry, Chemistry of Enzyme Catalyzed Reactions, Structural and Quantitative Pharmacology, Biochemical Energetics & Metabolism, and Epigenetics as faculty advisor for 10 PhD students and 6 Master’s students.

**Rob Knight, PhD** lectures about the microbiome and bioinformatics in a range of courses at the graduate and undergraduate level in the School of Medicine, the Division of Biological Sciences, and the Jacobs School of Engineering, as well as several dozen continuing medical education lectures per year to audiences interested in nutrition, neural control, and the microbiome. His online course “Gut Check,” run through Coursera, has had over 30,000 participants. He also mentors graduate students through the BMS program, and has contributed to many T32 training grants at UCSD.

**Larissa Lewis, PhD** teaches clinical courses in Bacteriology (BIMM 120) in UCSD Biological Sciences. She is an adult infectious diseases specialist who provides consults to patients with complicated infectious disease presentations and antibiotic resistance problems in the inpatient and outpatient settings.

**Vicki A. Tremoulet, MD** teaches extensively in the curriculums on bacteriology, infectious disease pathogenesis and the innate immune system, with a special focus on invasive bacterial infections and antibiotic resistant pathogens. Using a variety of molecular genetic approaches, the laboratory characterizes bacteria, identifies determinants involved in virulence and resistance to immune clearance. In collaboration with other labs, we have used the Gromyx-2 mouse model to demonstrate that innate immune responses to LPS may protect against sepsis. The laboratory has also demonstrated that innate immune responses to LPS may protect against sepsis. The laboratory has also developed approaches to use immune responses to LPS to develop novel strategies for treatment and prevention of these potentially life-threatening infections. The laboratory also studies the dynamics of vaginal colonization with the leading neonatal bacterial pathogen Group B Streptococcus, which can be transmitted from mother to newborn with host epithelium, and persists in the presence of normal microflora, host mucosal defenses and the female menstrual cycle.

**Pieter Dorrestein, PhD** seeks to develop new mass spectrometry based methods to link biological, disease and health phenotypes to the underlying chemistry and genotypes. In short, we are working on linking biological and health states to computational models with the goal of developing new disease diagnosis and drug targets. This research requires the understanding of (microbial) genomics, proteomics, imaging mass spectrometry, genome mining, enzymology; overexpression of genes, expression of virulence biology, bioactivity screening and an understanding of small molecule structure elucidation methods. This work is needed to develop a holistic spatial and temporal database of natural product products in 3D, 3D and in some cases real-time. In addition to the characterization of metabolic exchange the lab aims to characterize translation of gene expression and metabolism to the forensic, clinical and ecological biology. The Collaborative mass Spectrometry Innovation Center (CCTG) at UCSD is an investment in the development of these tools. The group is focused on the development of approaches to data generation and data interpretation for the discovery of new treatments for rare diseases, as well as for drug discovery as a means to detect and structural characterization specialized metabolites through crowd source annotation of multivariate datasets.

**Rob Knight, PhD** has a primary appointment in the division, a secondary appointment in the Department of Computer Science & Engineering in the Jacobs School of Engineering, and directs the Center for Mass Spectrometry Innovation (CCTG) in the Microbiome and Microbial Sciences Initiative in the Microbiome and Microbial Sciences. His laboratory focuses on developing and applying mass cytometry to understand the complex biodiversity of the human microbiome. The lab is developing methods to study the human microbiome and to study how diseases affect the microbiome in a systematic way. The lab is also interested in developing new mass spectrometry related technologies to better understand the human microbiome. The lab is working on developing new mass spectrometry based methods to link biological, disease and health phenotypes to the underlying chemistry and genotypes. This research requires the understanding of (microbial) genomics, proteomics, imaging mass spectrometry, genome mining, enzymology; overexpression of genes, expression of virulence biology, bioactivity screening and an understanding of small molecule structure elucidation methods. This work is needed to develop a holistic spatial and temporal database of natural product products in 3D, 3D and in some cases real-time. In addition to the characterization of metabolic exchange the lab aims to characterize translation of gene expression and metabolism to the forensic, clinical and ecological biology. The Collaborative mass Spectrometry Innovation Center (CCTG) at UCSD is an investment in the development of these tools. The group is focused on the development of approaches to data generation and data interpretation for the discovery of new treatments for rare diseases, as well as for drug discovery as a means to detect and structural characterization specialized metabolites through crowd source annotation of multivariate datasets.

**Kelly Doran, PhD** has a joint appointment in the division and is a Professor of Biology at San Diego State University. Her research focuses on molecular epidemiology, with examination of the mechanisms by which certain bacteria can enter the central nervous system and the inflammatory response of the blood-brain barrier to infection. Through these studies, she seeks to inform novel strategies for treatment of these currently untreatable life-threatening infections. The laboratory also studies the dynamics of vaginal colonization with the leading neonatal bacterial pathogen Group B Streptococcus, which can be transmitted from mother to newborn with host epithelium, and persists in the presence of normal microflora, host mucosal defenses and the female menstrual cycle.

**Victor Nizet, MD** leads a basic research laboratory focused on microbial pathogenesis and the innate immune system, with a special focus on invasive bacterial infections and antibiotic resistant pathogens. Using a variety of molecular genetic approaches, the laboratory characterizes bacteria, identifies determinants involved in virulence and resistance to immune clearance. Ultimately, we believe the basic information generated through this platform will lead to novel treatment strategies for infectious diseases, involving targeted neutralization of bacterial virulence phenotypes, pharmacologic augmentation of host protective immune responses, the development of novel therapeutic molecules and smarter use of existing antibiotics to maximize synergies with the host immune system.

**Brooke Best, PharmD, MAS** specializes in the clinical pharmacology of antiretrovirals, pharmacotherapeutics, monitoring drug treatment, monitoring of HIV-infected pregnant women and childhood antiretroviral therapy. She serves as principal investigator or co-investigator on projects with the International Maternal Pediatric Adolescent AIDS Clinical Trials Group (IMPATH). She is the principal investigator of the AIDS Clinical Trials Group (ACTG) and the NICHD Neurobehavioral Research Center (NNRC). She is a co-principal investigator of the NICHD-supported T32 clinical pharmacology fellowship. She also lectures to pharmacy students about pediatric pharmacology as well as the NICHD-supported T32 clinical pharmacology fellowship. She is also a postdoctoral fellow at all the Genetics seminar series and the Genetics Training Program annual retreat.

**Karsten Zenger, PhD** has excellent experience in teaching in didactic and interactive format courses at UCSD, and in mentorship of postdoctoral fellows, graduate students and undergraduate students in the field of Genomics. He is currently a Departmental Research Advisor and/or Thesis Committee Chair. He has helped develop curricula and lecture in classes in the UCSD Department of Clinical Pharmacy teaching the fundamentals of microbial ecology and the microbiome.
and affordability of recombinant protein drugs. The computational tools are also being deployed to study human milk oligosaccharide synthesis and to associate the oligosaccharides with infant diseases such as necrotizing enterocolitis. He is also using CRISPR-based strategies to unravel the mechanisms underlying glycosylation and proliferation in cancer. Lastly his group is leveraging systems biology approaches to develop diagnostic and prognostic biomarkers for autism spectrum disorders.

Bernhard Palsson, PhD is the founder of the Systems Biology Research Group that focuses on systems-level analysis of the multigenic processes that control cellular functions. Palsson’s group views the coordinated action of multiple gene products as a network or a so-called genetic circuit. His current research efforts focus on genetic circuits involving metabolism and gene regulation. Metabolism is the “chemical engine” that drives the living process. Together, the enzymes used in metabolism produce all of the major constituents of the cell. Combining powerful systems science analysis techniques with toys of bioinformatics, the group has developed methods that use the metabolic genotype of an organism to analyze, interpret, and predict its metabolic phenotype under particular conditions. He has further developed in silico models for the human red blood cell, E.coli, H influenza, H pylori, MRSA and S cereiseae. Using these in silico strains he can study variations in the genotype and shifts in metabolic routing resulting from changing growth conditions, adaptive evolution or genetic deletions.

George Sakoulas, MD performs translational and clinical research on the treatment of Gram-positive bacterial infections, including methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant Enterococcus (VRE). He has been able to translate pharmacodynamic interactions observed with antibiotics in the laboratory into successful treatments for patients with refractory infections, utilizing novel combination therapies. His current efforts examine host characteristics and biomarkers that can predict clinical outcome as a method of risk stratification and selection of antibiotics, as well as studying the pharmacodynamic interaction between host innate immunity and administered antibiotics.

Adriana H. Tremoulet, MD, MAS is the Associate Director of the Kawasaki Disease (KD) Research Center. Her research has concentrated on developing a diagnostic test for KD, the most common cause of acquired heart disease in children, as well as repurposing and assessing the safety and pharmacokinetics of new therapies for KD. She led the FDA Orphan Drug Grant funded Phase III clinical trial evaluating the use of infliximab in primary treatment of Kawasaki disease. She is the lead PI of two multi-center Phase I/II studies clinical trials of atorvastatin and anakinra in order to evaluate these in silico strains he can study variations in the genotype and shifts in metabolic routing resulting from changing growth conditions, adaptive evolution or genetic deletions.

Elizabeth Winzeler, PhD is a lead a research program developing innovative ways to treat and diagnose tropical diseases with a long-term interest in promoting development and reducing poverty. Most of her efforts are focused on malaria, a disease affecting 250-500 million people annually she is developing genome-wide methods for discovering and tracking genes conferring resistance to drugs with antimalarial activity. For example, her group is studying the genomes of drug resistant and drug sensitive malaria parasites from the Peruvian Amazon with the goal of finding the genetic determinants of drug resistance. The laboratory is also involved in discovering how thousand of chemical inhibitors with antimalarial activity are working to kill the parasites with a goal of discovering chemically validated targets and chemical tool compounds. Additionally, they are playing a role in public-private partnerships to develop new drugs to treat malaria. Finally, she is using somatic cell and host genetics to investigate host-pathogen interactions. The Winzeler laboratory efforts involve chemical and traditional genetics, genomics, high-content imaging, screening and a network of national and international collaborators interested in public health.

Karsten Zengler, PhD focuses his research on microbiome/microbe and microbe/host interactions integrating multi-omics data by deploying systems biology approaches. The lab focuses strongly on mechanistic understanding of interactions microorganisms engage in. For this, the laboratory has developed ultra-low input methods for metagenomics and metatranscriptomics to accommodate data generation from minuscule amounts of samples from skin, gut, or the environment. The lab has also pioneered high-throughput cultivation for the isolation and recovery of previously unculturable microorganisms and used this method to access the human skin microbiome.
"Sedation, Status Epilepticus Lab Re-Analysis"

203-9499 (Co-I) 06/15/2012-08/14/2014 $145,041 (sub only) NIH/Duke University

"Pharmacometrics of Understudied Drugs Administered to Children as Standard of Care"

203030 (Co-I) 07/06/2012-09/14/2013 $35,191 (sub only) NIH/Duke University

"Milkacidum use in Status Epilepticus"

173578 (Co-I) 09/05/2012-09/29/2015 $27,857 (sub only) NINDS

"Pediatric Trials Network – Leadership Committee"

Kiley Doran, Ph.D.

RoI NS031427-05 (PI) 07/01/2006 – 05/31/2016 $1,019,900

"Blood-Brain Barrier Failure during Bacterial Meningitis"

Joint Venture Project (PI) 07/01/2011 – 12/31/2013 $25,000 CSUPERB

"Characterization of a novel peptide to treat bacterial infection"

1028005-009 (PI subcontract) 08/01/12 – 07/31/16 $39,988 UCSD (NIH)

"Institutional Research & Academic Career Development Award"

U5CA132838 (co-PI) 05/01/2013 – 08/31/2013 $100,000 NIH/NICHD

"Analysis of Oral Microbiota in Human Subjects"

R01 AI126819 (co-1) 07/01/14 – 06/20/19 $11,213 NIH/NAID

"Role of an ornithine rhamnolipid pigment in GBS virulence"

Pieter Dorrestein, PhD

RoI GM079236-01A1 (PI) 04/1/2007-9/30/2010 $320,000 NIH/NIHGM

"Experiment based genome mining of ribosomal natural products"

RoI GM0107550-01 (Co-PI) 7/1/13 – 6/30/17 $240,000 NIH/NHGM

"Mapping the secondary metabolism of marine cyanobacteria"

IS13-143020 (PI Subaward) 8/11/14-7/31/17 $118,862 NSF

"Defining the Organizational Principles of Microbial Communities Colonizing Plant Roots"

RoI HL116235 (Consortium PI) 7/1/14-6/30/16 $33,295 NSF

"Microbiome Acquisition and the Progression of Inflammation and Airway Disease in Infants with Cystic Fibrosis"

2051981 (PI) 12/1/14-7/30/16 $40,554 Bayer CropScience

"NanoDESI to Characterize Metabolome of Bacillus Species in Soil"

E-PS02-08ER09-25 10/07/10-6/30/13 $577,501 Templeton

"Convergent Evolution of the Vertebrate Microbiome"

U51 DE023789-01 (Co-PI) 9/6/2013- 8/31/2016 $75,000 NH/Harvard

"Characterizing the gut microbial ecosystem for diagnosis and therapy in IBD"

2014-3C-4 (PI) 4/1/2014 – 4/1/2016 $1,000,000 SLOAN FOUNDATION

"An integrated data platform for democratized sequencing"
"Model-Guided Identification of Synthetic Genes for Target Drug Development"

Adriana Tremoulet, MD, MAS
rij2@hsph.harvard.edu
10/25/2012-12/31/16
$410,824 NIH/NCI
"Malayan Liver Stage Assays for Drug Discovery"

TNDI/1R01AI111692-02 (PI)
07/01/2012-12/31/14
$244,136 Novartis Institut. For Trip. Dis.
"Discovery of novel inhibitors of liver-stage Plasmodium species and complementary mechanism of action studies"

PS1 GM085786 (co-PI)
09/18/10 – 05/31/19
$407,000 NIH (NGMSee)
"Center for Systems Biology of Cellular Stress Responses"

Karsten Zengerl, PhD

DE-SC201252 (PI)
09/01/2014 – 09/30/2017
$1,352,899 Department of Energy
"Next GenX: Sequencing, Modeling, and Advanced Biofuels"

2P20AI111699-17 (PI)
01/01/2013 - 01/01/2014
$120,000 Center for ALFP and Circorhsis
"The Role of the Microbe in Alcoholic Liver Disease: What Factors Contribute to Dysbiosis of the Microbe in Alcoholic Liver Disease?"

2P20AI111699-17 (PI)
01/01/2013-12/31/2015
$27,000 Center for ALFP and Cirrhosis
"The Role of the Microbe in Alcoholic Liver Disease"

UCSD (PI)
09/23/2013-09/30/2016
$25,000 FSP
"Examining the Role of the Microbe in Alcoholic Liver Disease within Systems Biology"

N2BNA20150456 (PI)
05/01/2015-04/30/16
$38,750 NovoBios Chemicals
"Transcriptional Response of Bacillus During Application on Human Skin"

DE-SC0012558 (PI)
04/01/2013 - 09/30/2017
$259,272 (sub only)
Department of Energy
"Survival Strategies of Autoimmune-Heterotrophic Syndrome for Bioenergetics"

RAI1R07547 (Co-PI)
07/01/2015-06/30/2021
$77,500 NIH/NIAID
"Establishing a Skin Microbiome Transplant"

PUBLICATIONS


Barber KE, Bybak M, Sakoulas G. Vancomycin plus ceftaroline shows potent in vitro synergy and was successfully utilized to clear persistent daptomycin resistant Staphylococcus aureus bacteremia. Antimicrobial Agents Chemother 2014; 58:313-31.


potential for use in prophylaxis, treatment, and prevention of disease.

Diagana TT. KAF156 is an antimalarial clinical candidate with ProteoInfomatics.


Kullar R, McKinnell JA, Sakoulas G. Avoiding the perfect storm: the biologic and clinical case for re-evaluating the 7-day expectation for MRSA bacteremia before switching therapy. *Clin Infect Dis* 2014; 59: 1455-1461.


Infectious Diseases
INTRODUCTION
The Division of Infectious Diseases provides clinical care, teaching, clinical and basic research as well as hospital epidemiology and infection control at Rady Children's Hospital San Diego (RCHSD). The division has excelled in every aspect of its clinical and academic missions. Its reputation is demonstrated by the leadership roles of its divisional members nationally and internationally, and the success of the fellows graduating from the program.

DIVISION FAST FACTS

The Division covers all the clinical activities in Infectious Diseases at RCHSD

MAJOR PLANS AND GOALS

Recruitment of new clinical and laboratory based faculty:

Clinical Program: The Pediatric Infectious Diseases Division has established an outstanding clinical infectious diseases consultative service as well as an infectious diseases specialty service at RCHSD.

Teaching: The Infectious Diseases faculty has an established record of outstanding teaching and mentoring of medical students, residents and fellows, with one of the ID faculty receiving the UCSD Pediatric Resident Attending of the Year Award.

CLINICAL ACTIVITIES
The division's clinical activity is primarily consultative assisting other medical and surgical divisions in the management of serious, complicated or unusual infections in children in both the inpatient and outpatient settings.

TEACHING ACTIVITIES
The Division of Infectious Diseases provides care and on-service direct teaching of students, pediatric and pharmacy residents, and fellows in the diagnosis and management of pediatric infectious diseases. The ID service begins rounds each day in microbiology, where cultures, stains and histology are reviewed, followed by radiology rounds and ward rounds, and visits to the Emergency Department to provide a superb hands-on teaching experience.

John S. Bradley, MD
• Lecturer, RCHSD Noon Conferences
• Inpatient rounds and weekly case conferences, Pediatric Infectious Diseases

Christopher R. Cannavino, MD
• Lecturer, RCHSD Noon Conferences
• Inpatient rounds and weekly case conferences, Pediatric Infectious Diseases

Juan Chaparro, MD
• Inpatient rounds and weekly case conferences, Pediatric Infectious Diseases
• Lecturer, RCHSD Noon Conferences

Alice Pong, MD
• Inpatient rounds and weekly case conferences, Pediatric Infectious Diseases

FACULTY

Stephen A. Spector, MD
Distinguished Professor of Pediatrics
Co-Division Chief

John S. Bradley, MD
Professor of Clinical Pediatrics
Co-Division Chief

Juan Chaparro, MD
Assistant Clinical Professor of Pediatrics

Alice Pong, MD
Clinical Professor of Pediatrics

Mark H. Sawyer, MD
Professor of Clinical Pediatrics

Grant Campbell, PhD
Assistant Project Scientist

Christopher Cannavino, MD
Associate Clinical Professor of Pediatrics

Kumud Singh, PhD
Associate Adjunct Professor

Rolando Viani, MD
Professor of Clinical Pediatrics

FELLOWS

Lauge Farnaes, MD, PhD
Ankita Garg, PhD
Pratima Rawat, PhD

Carmen Teodorof, PhD
Gang Zhang, PhD
Mark Sawyer, MD  
Pediatric Infectious Disease Consultant  
• Directs a curriculum on immunizations for primary care residents  
• Lecturer, Pediatric Infectious Diseases  
• Inpatient rounds and weekly case conferences, Pediatric Infectious Diseases  
• ISP student advisor  
Kumud K Singh, PhD  
• Instructor, Problem Based Learning Curriculum for First and Second year Medical Undergraduate Students (Clinical Foundations I & SOMC 224ABC)  
• Instructor, Pediatrics Pharmacogenetics and Pharmacogenomics (PPEAR 235/ RH 235M235)  
• Organizer, Children’s Health Education and Research Seminars (CHERS)

Stephen A. Spector, MD  
• Instructor, Clinical Microbiology for second year medical students  
• Instructor, Microbiology Laboratory  
• Lecturer, Pediatric Infectious Diseases  
• Lecturer Infectious Disease Fellowship series  
• Lecturer Military International Health Program  
• Instructor rounds and weekly case conferences, Pediatric Infectious Diseases  
• Member, IRB committees for biomedical sciences students  
• ISP student advisor

PUBLICATIONS


Grant Campbell, PhD studies the mechanisms that control autophagy in response to HIV infection by developing understanding of how the endo/lysosomal system of macrophages is converted into providing a niche environment for controlled replication of HIV. He is a co-founder of the Critical Path Initiative to improve clinical trial design for antiviral agents that target the host inflammatory response to HIV, and to achieve optimal therapeutic responses that are supported by immune regulatory mechanisms. In addition, he is a member of the editorial boards of the Journal of the Pediatric Infectious Diseases Society and the Pediatric Infectious Disease Journal.

Juan Chaparro, MD is completing a concurrent fellowship in Clinical Genetics and Medical Informatics (DBMI) at UCSD. His primary research interests include the use of applied informatics and natural language processing to provide point-of-care risk assessment in real-time. He has been involved in several collaborative studies utilizing the database of the Kawasaki Disease Research Center and the DBMI, he has aided in the development of a database for the Kawasaki Disease using physician documentation in the emergency department to improve clinical care for patients presenting with Kawasaki disease. The database has been used to identify patients at risk for Kawasaki disease and to be implemented into the Rapid Epi EHR for further prospective studies. Dr. Chaparro has also collaborated with the development of a registry to identify patients at risk for Rheumatoid Arthritis, and is exploring the associations of host genetic variants on HIV disease progression and HIV infection in children. The laboratory has received funding from the National Institutes of Health. The laboratory is interested in identifying host factors that affect HIV pathogenesis led to the novel finding that during perinatal transmission, HIV down-regulates autophagy to promote its own replication, and the induction of autophagy (using mTOR inhibitors) may improve the outcome of therapy, and provide a new therapy for HIV infection. The laboratory has also identified specific host genetic variants that are associated with mother-to-child transmission, HIV disease progression, and antiretroviral treatment resistance.

Stephen A. Spector, MD has sought to discover novel approaches for the detection, treatment, prevention and immunopathogenesis of HIV and human cytomegalovirus (CMV). His laboratory has been involved in the last decade in risk assessment for children at risk for HIV infection. Current ongoing research examines HIV pathogenesis with a particular focus on HIV replication and the role of autophagy. The laboratory has identified specific host genetic variants that are associated with maternal-to-child transmission, HIV disease progression, and antiretroviral therapy resistance.

RESEARCH ACTIVITIES

John S. Bradley, MD is involved in Phase I through Phase IV clinical trials of antivirals, antifungals, and non-HIV antivirals, and currently focuses on novel therapies for CA-MRSA and multi-drug resistant Gram-Negatives, incorporating pharmacokinetics/pharmacodynamics and Monte Carlo Simulation into clinical outcome assessment. He served on the FDA’s Anti-Infective Advisory Drug Committee, and continues currently as an Advisor. He is a participant in the Clinical Trials Transformation Initiative (FTDA and Pharmaceutical Industry with Duke University) and the Critical Path Initiative to improve clinical trial design for antiviral agents that target the host inflammatory response to HIV, and to achieve optimal therapeutic responses that are supported by immune regulatory mechanisms. In addition, he is a member of the editorial boards of the Journal of the Pediatric Infectious Diseases Society and the Pediatric Infectious Disease Journal.

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CLINICAL GUIDELINES


<table>
<thead>
<tr>
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Neonatology
INTRODUCTION

The Division of Neonatology provides state-of-the-art neonatal services at RCHSD, UCSD Hillcrest Medical Center, and at six additional NICUs throughout the greater San Diego area (208 NICU beds total). The Division provides a regionalized approach to care, participating with all the major delivery services in San Diego, Imperial and Riverside Counties. Faculty members also provide inpatient care to term newborns and transitional care for NICU patients at Hillcrest Medical Center. In addition, the division faculty provides medical and neuro-developmental evaluations of high-risk NICU graduates.

This Division continues to grow and excel. US News and World Report now ranks the Division in the top 20 Neonatology Divisions in the United States. Recent additions to our growing faculty ranks bring new expertise in molecular research, genomics, innovative clinical care, and quality improvement.

DIVISION FAST FACTS

- $3.3 Million in Major Research Grants
- Provides NICU services in 6 different areas of San Diego county

MAJOR PLANS AND GOALS

- Integrate quality metrics across all NICUs within the enterprise to improve outcomes and develop innovative best practices.
- Develop a new clinical research initiative to produce higher impact, more collaborative patient-based investigations.
- Continue to seek new discoveries and knowledge through basic research and multidisciplinary collaborations in order to better understand how to prevent and treat neonatal diseases.
- Foster the development of fellows and junior faculty by more formal and comprehensive mentoring structures.
The Division of Neonatology has continued to grow. Faculty members now staff the Rady Children's Hospital NICUs at Scripps Mercy Hospital in San Diego and Scripps Mercy Hospital Chula Vista. Our expanded partnership with hospitals throughout the community brings the highest-level care and expertise to critically ill newborns throughout the San Diego region.

The newly constructed Level III NICU that will be housed within the Jacobs Medical Center on the La Jolla campus is scheduled to open in 2018. Plans for this state of the art 52-bed NICU include private patient rooms and an innovative MRI scanner designed especially for neonates.

The Neuro-NICU program has been established at both Rady Children's Hospital and UCSD Hillcrest Medical Center. A joint venture involving both Neonatology and Pediatric Neurology and Co-Directed by Drs. Crystal Le and Jose Humold, this program continues to provide innovative intensive care for neonates at highest risk of neurodevelopmental impairment.

Neonatology faculty members partner with physicians from the Pediatric Cardiology and Critical Care to staff the new Rady Children's Hospital 16-bed Acute Cardiac Unit. Comprised of the Cardiovascular Intensive Care Unit (CVICU) and Cardiac Step-down Unit (CSU), this specialized unit cares for all pediatric and neonatal cardiac surgery patients including heart transplant patients. The ACU provides a full range of cardiac intensive care services, including advanced patient monitoring and extracorporeal membrane oxygenation (ECMO).

Rady Children's Hospital San Diego

The 54-bed neonatal intensive care unit (NICU) at Rady Children's Hospital-San Diego provides Level 4 care, the highest designation available by the American Academy of Pediatrics. The Rady NICU is a major referral center for the most critically ill newborns, many with severe heart and lung conditions, birth defects, surgical conditions, or born extremely premature. Specialized services include advanced and complex surgery, ECMO, and dialysis. Our NICU has homelike private and semi-private rooms to help parents bond with their newborns.

The 49-bed NICU at UCSD Medical Center at Hillcrest is the San Diego area’s only regional Level III unit, providing the highest-level care for critically ill newborns. Partnering with the highest risk delivery service in the area, our faculty members direct multidisciplinary care for critically ill newborns. Faculty are partnering with other Department members to expand subspecialty coverage to newborns at Rancho Springs.

High-Risk Infant Follow-up

NICU graduates a closely followed after discharge by multidisciplinary teams of specially trained caregivers. These clinics provide detailed developmental assessments and help identify children requiring additional services. Drs. Erika Fernandez and Brian Lane direct these clinics at UCSD Hillcrest Medical Center and Rady Children's Hospital.

Newborn Services/ Family Maternity Care Center

Based at UCSD Hillcrest Medical Center, members of the faculty care for well and at-risk newborns in a family-centered care environment. Division faculty members have been instrumental in attaining Baby Friendly Hospital status and have developed the Supporting Premature Infant Nutrition (SPIN) Program and the Premature Infant Nutrition Clinic (PINC).

Newborn Nursery provides care and services to the newborn and their families at four locations within the UCSD Health System. The Nursery has 31 beds and cares for about 1,800 babies per year. Newborn Nursery provides include:

Lisa Stellwagen, MD
- Breastfeeding support program improvement
- Quality improvement in premature infant nutrition and human milk feeding
- Clinical investigations into outcomes and in hospital characteristics of late preterm infants
- Antibiotic stewardship in newborn/NICU care
- Neonatal abstinence in infancy; improving outcomes, hospital care and parent education

Michelle Leff, MD
- Interactions between maternal diet, breastmilk composition, and development of obesity and diabetes
- Clinical investigations into outcomes and in hospital characteristics of late preterm infants
- Improvement in clinical care of infants at risk of Neonatal Abstinence Syndrome
- Hyperbilirubinemia and transcutaneous measurements of bilirubin

Eustacia Hubbard, MD
- Clinical investigations into outcomes and in hospital characteristics of late preterm infants
TEACHING ACTIVITIES

The Division continues to provide clinical training and investiga-
tional mentoring for the latest in neonatal perinatal medicine. In addi-
tion, medical students and pediatric housestaff receive both clin-
ical training and didactic teaching at the bedside. Faculty members
at both Rady Children's Hospital and the UCSD Hillcrest Medical
Center. The Division of Neonatology annually co-sponsors the Fetus
and Newborn: State of the Art Care Conference. The conference
provides attendees with a robust set of cutting-edge innovations and
therapies in neonatal care. Division members also mentor multiple postdoctoral
fellows, graduate students, and undergraduate students. Faculty
members present over 100 invited lectures annually around the
nation and the world.

RESEARCH ACTIVITIES

The Division of Neonatology contains a productive group of cellular,
molecular, and translational investigators. Division members have receiv-
ed multiple awards. Research has been supported by both the NIH, foundation, and industry sources.
Investigators have presented data at many National and international meetings and received multiple awards.
Division members studying the basic mechanisms of disease include
Erika Fernandez (DNA repair, hypoxia and cell death), Erika Fernandez
(stem cell approaches for genetic disease), Eniko Sajti (molecular
synthetic surfactants), Farhad Imam (genetic response to hypoxia
and surfactant production), the molecular mechanisms of neonatal lung disease.
Clinical investigations into outcomes and in hospital characteristics
improve initiatives related to congenital diaphragmatic
benchmarking, research and development of safety and quality
improvement Initiative, sharing data, information and ideas for
Neonatal Research Network.
Research Award (PI)
Antimalarials
“Exploring oligosaccharide Synthesis in Human Mammary Gland
Epithelial Cells”
Investigator Award (PI)
“Exploiting complex sugars in mother’s milk as new, safe and
effective IBD interventions”
Conference Grant (PI)
$60,000
Bill & Melinda Gates Foundation
"ISRHML 2016 Conference, Stellenbosch, South Africa"
R3 (Multi-PI)
12/5/2016 – 08/2026
$40,875
NIH/NICHD
“Disulfyl oligosaccharides as NecroTortching Enothetis therapeutics”

Jose Honold, MD
• Clinical innovation and interventions that improve outcome in
critically ill neonates at highest risk of neurodevelopmental
impairment.

Eustatia (Tia) Hubbard, MD
• Clinical investigations aimed at improving outcomes in late
preterm infants and patients at risk of feeding difficulties.

Farhad Imam, MD, PhD
• Using novel approaches and experimental models to study the molecular roles of stress in newborns.

Jose Honold, MD
• Understanding development of gastrointestinal morbidty in preterm infants.

Amy Kimball, MD
• Developing innovative pharmacological treatments for respiratory failure, refractory pain, and pulmonary hypertension
in critically ill surgical patients.

Shelley Lawrence, MD
• Developing novel flow cytometry approaches for measuring neutrophil composition and maturation in neonates.

Crystle Le, MD
• Preclinical testing of candidate therapies in neonatal models of disease.

Michelle Legg, MD
• Interactions between maternal diet, breast milk composition, and development of breastfeeding.

Lars Bode, PhD
• Biosynthesis and functional physiology of human milk
oligosaccharides

Jeanne Carroll, MD
• Investigating the molecular signals regulating endothelial
development and lung stem cell differentiation.

Erika Fernandez, MD
• Role of adrenal insufficiency and glucocorticoid treatment in
effective IBD interventions
• Focal reduction of lung inflammatory mass.

Crystal Le, MD
• Effect of premedication on neonatal intubations by trainees.
• Clinical investigations to improve outcome in critically ill neonates at high risk for neurodevelopmental
• Statewide collaboratives for antibiotics stewardship in the NICU and optimizing NICU length of stay for premature infants.
• Characterization of premature infants across Nicu centers for identifying factors contributing to skin irritation.
• Targeted and selective use of laboratory tests to evaluate early onset neonatal sepsis.

Denise Suttner, MD
• Development of novel approaches for counseling families in the
development of novel approaches for preventing oxidative lung
• Discovery of novel molecular and cellular mechanisms that
regulate stem cell plasticity and neurodevelopmental
• Discovery of novel molecular and cellular mechanisms that
regulate stem cell plasticity and neurodevelopmental
• Development of novel flow cytometry approaches for measuring neutrophil composition and maturation in neonates.

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preterm infants and patients at risk of feeding difficulties.


**INTRODUCTION**

The Division of Pediatric Nephrology is incredibly active in patient care, research and education. Clinically, the division is the only service in San Diego and Imperial County that provides comprehensive care to children with kidney diseases, including acute and chronic dialysis and renal transplantation. The new clinical facilities and arrival of outstanding clinical faculty have energized and revitalized the clinical practice. The Division was recognized in U.S. News and World Report as one of the top Pediatric Nephrology programs in the U.S.: 24th in 2013, 27th in 2014, and 38th in 2015.

Due to the significant increase in clinical volume, we have been actively recruiting new faculty. Dr. Lieuko Nguyen, who finished fellowship training at Stanford and Toronto Sick Children, started a full-time position in October 2013. Dr. Sujana Gunta, who trained with us, started a part-time position with us in January 2014. Dr. Noareddin Nourbakhsh and Dr. Elliot Perens completed their Fellowship in our program in June 2015. They started as Assistant Professors in our division in July 2015.

The division has a three-year accredited subspecialty fellowship designed to prepare fellows for a career in academic pediatric nephrology. The fellowship program was reviewed by the ACGME in 2008 and was accredited for an additional five years. We have been successful in consistently recruiting outstanding fellowship candidates. Medical students and pediatric residents take electives in pediatric nephrology, spending two to four weeks on both the inpatient and outpatient services with kidney conditions. (Dr. Wei Ding, a Visiting Scholar in Dr. Mak’s laboratory, received the Western Society of Pediatric Nephrology (WSPN) Fellow Research Award in September, 2014.)

**FACULTY**

Robert Mak, MD, PhD  
Professor of Pediatrics  
Division Chief

Nadine Benador, MD  
Clinical Professor of Pediatrics

Caillinn Carter, MD  
Assistant Clinical Professor of Pediatrics

Sujana Gunta, MD  
Assistant Clinical Professor of Pediatrics

**FELLOWS**

Noureddin Nourbakhsh, DO
Elliot Perens, MD, PhD
Celina Cepeda, MD

**CLINICAL ACTIVITIES**

Most children from San Diego and Imperial Counties with kidney diseases are hospitalized at Rady Children’s Hospital San Diego (RCHSD). In addition, the division provides consultations for inpatients with kidney diseases, hypertension and fluid and electrolyte abnormalities. The average inpatient census is 10-15.

There are nine half-days of outpatient clinics weekly, each staffed by one to two faculty members. One clinic is primarily for the follow-up of patients after renal transplantation. In the other seven clinics, the division sees new and established patients with kidney diseases. In addition, there is a fellows’ continuity clinic, which is staffed with an attending. The Division has started a weekly CCS kidney team clinic with a renal dietician and social worker every Thursday for the management of children with congenital abnormalities and chronic kidney disease. A monthly joint lupus clinic in conjunction with the Division of Rheumatology has also been started and is already fully booked. We have plans to initiate a second monthly lupus clinic. The division has a contract with Kaiser Permanente to see new and established patients with kidney diseases in three weekly half-day clinics. The division performs 8-10 transplants annually and follows more than 80 transplantation patients.

Children are treated with either chronic hemodialysis or peritoneal dialysis at UCSD Medical Center and RCHSD. There are daily hemodialysis unit rounds. There are two monthly peritoneal dialysis clinics. The average census of patients on chronic dialysis is 25. We have also taken over the acute dialysis services previously provided by UCSD Medical Center. We are also taking over the apheresis services previously provided by an outside company. The dialysis/apheresis unit is being renovated and expanded. This is now adjacent to the outpatient nephrology clinics so that we are moving towards our long-term goal of a Comprehensive Kidney Care Center. We have established multi-disciplinary clinics in the context of kidney stones, tuberous sclerosis & lupus nephritis.
TEACHING ACTIVITIES

Fellows: Dr. Caitlin Carter completed her fellowship in our program in December 2012. She started a part-time position with us on Jan- uary 2013. Dr. Mims completed her fellowship in our pro- gram in September 2013 and started a part-time position with us in January 2014. Dr. D. De Nourbakhsh and Dr. Elliot Perkins completed their fellowships in our program in June 2013. They started full-time positions with us in July 2013. We have applied to the NIH for T32 fellowships training grant funding in association with the Internal Medicine Nephrology Division at UCSD.

Residents/Medical Students: An average of 12 pediatric residents per year elect to spend a month in nephrology, and between three and four medical students a year take the nephrology elective.

•Active in clinical and didactic teaching for medical students and pediatric resident trainees who elect to spend a month in nephrology.
•Teaches nursing staff in the dialysis area.

Caitlin Carter, MD
•Active in training medical students, pediatric residents, and fellows in Nephrology.

Nadine Benador, MD
•Active in training medical students, nephrology residents, and fellows in Nephrology.

Elisabeth Ingulli, MD
•Active in training medical students, nephrology residents, and fellows in Nephrology.

Research Activities

Robert Mak, MD, PhD
•Active in training medical students, pediatric residents, and fellows in nephrology.
•Active in clinical and didactic teaching for medical students and pediatric resident trainees who elect to spend a month in nephrology. New applications for 2013-2015.

Elizabeth Ingulli, MD
•Active in training medical students, pediatric residents, and fellows in Nephrology.

Mune aspects of renal transplant rejection and is frequently an invited speaker in national meetings.

Noureddin Nourbakhsh, DO
•Active in training medical students, nephrology residents, and fellows in nephrology.

Peritoneal Dialysis International (PII)
•Participates in clinical and didactic teaching for medical students and pediatric resident trainees who elect to spend a month in nephrology.

Elliot Perkins, MD, PhD
•Active in training medical students, pediatric residents, and fellows in nephrology.

Robert Mak, MD, PhD
•Participates in the clinical teaching service for inpatient and outpatient pediatrics training for medical students.

Peter Yorgin, MD
•Active in training medical students, pediatric residents, and fellows in nephrology.

Robert Mak, MD, PhD
•Active in training medical students, pediatric residents, and fellows in nephrology.

Nadine Benador, MD
•Active in clinical research. She is working on a cell phone based program to monitor compliance in patients with chronic kidney disease.

Lucio Nguyen, MD
•Active in clinical research. She is working on a cell phone based program to monitor compliance in patients with chronic kidney disease.

Noureddin Nourbakhsh, DO
•Active in clinical and didactic research into acute kidney injury.

Elliot Perkins, MD, PhD
•He is interested and active in basic research in developmental nephrology. He obtained fellowship research support from the California Institute of Regenerative Medicine (CIRM) for 2012-2013 and a grant from the A.P. Giannini Foundation in 2015.

Peter Yorgin, MD
•He is active in clinical research. He is conducting outcome studies in pediatric dialysis and lupus nephritis. He is a recognized expert in chronic kidney disease and is frequently an invited speaker in national meetings.

RESEARCH SUPPORT

Robert Mak, MD, PhD
Abbott (49422) June 2012-May 2014 $178,835 “The impact of aurein 1.2 on proteinuria, disease progression, cardiovascular complications and survival in a mouse model of diabetic nephropathy with chronic kidney disease”

2012-2016 (PI)
Sept 2012-Aug 2014 $136,362 Cystinosis Research Foundation “Inflammation and muscle wasting in nephopathic cystinosis”

R24HD058871 (PI)

2014-2017 (PI)
Jul 2013-June 2015 $180,568 Biostar, Inc “Use of leptin receptor antagonists in chronic kidney disease”

NIDDK U01 DK-05-0372 (Co-PI)

2014-2018 (PI)

Elliot Perkins, MD, PhD
October 2014-September 2017 $84,666 Binational Science Foundation “Leptin receptor antagonists ameliorate muscle and renal fibrosis in chronic kidney disease”

TG-01156 (PI)
July 2012-June 2015 $213,000 CIRM Training Grant “Identification of factors regulating kidney cell fate: HansII inhibits intermediate mesoderm formation.”

Elliot Perkins, MD, PhD

Elliot Perkins, MD, PhD
June 2012-May 2014 $178,835 “The impact of aurein 1.2 on proteinuria, disease progression, cardiovascular complications and survival in a mouse model of diabetic nephropathy with chronic kidney disease”

PUBLICATIONS


AWARDS & HONORS

We were recognized in News and World Report as one of the top Pediatric Nephrology programs in the US: 24th in 2013, 27th in 2014 and 38th in 2015.

Elizabeth Ingulli, MD
Teaching Attending of the, UCSD Residents, July 14-June 15.

Robert Mak, MD, PhD
Editorial Board, Nature Reviews Nephrology, 2009-present

Editorial Board, World Journal of Pediatrics, 2012-present


Editorial Board, American Academy of Pediatrics, PREP Nephrology, 2013–present

Editorial Board, Pediatric Research, 2014-present

Elliot Perkins, MD, PhD
ASPEN Presentation Award, PAS Annual Meeting, Vancouver, Canada. May 2014.
Neurology
INTRODUCTION

The Division of Pediatric Neurology provides comprehensive consultation, assessment, and management of disorders of the brain, spinal cord, nerves and muscles that affect infants, children and adolescents. In addition to general childhood neurological disorders, special areas of expertise among the division members include neurodevelopmental disabilities, (e.g., autism, developmental delay, Rett syndrome), epilepsy, metabolic disorders, brain tumors, neurogenetic disorders, headache, movement disorders, neuromuscular disorders, pediatric stroke, gait disturbances, ataxia, cerebral palsy, and neonatal neurology.

Members of the Division are also actively engaged in basic, translational, and clinical research to better understand the mechanisms of brain development and disease, and to advance treatment modalities for children with neurological disorders. The division provides inpatient and outpatient clinical services, including consultations, ongoing care, advice and support regarding neurological issues for the greater San Diego area and contiguous counties. Members of the division also receive referrals for consultations from all parts of the United States and from many other countries around the world.

DIVISION FAST FACTS

Division provides 1,500 Inpatient admissions & consultations per year and 14,000 outpatient services

MAJOR PLANS AND GOALS

Expanding our comprehensive epilepsy program with an emphasis on non-medical management of intractable epilepsy

Expanding our neonatal neurology program and are actively recruiting 2 additional neonatal neurologists

Enhancing our interactions with the Rady Pediatric Genomics and Systems Medicine Institute to provide access to advanced genomics and precision medicine for patients in the Child Neurology clinics.

Outpatient: We are continuing to develop and expand our specialty clinics in Rett syndrome, Tuberous Sclerosis, and Muscular Dystrophy and are developing additional clinics in Angelman Syndrome, Neurofibromatosis and other neurocutaneous disorders, and Complex regional pain syndrome.

FACULTY

Jeffrey Neul, MD, PhD
Professor and Vice Chair of Neuroscience
Division Chief

Michael Zimric, MD
Associate Clinical Professor of Neurosciences and Pediatrics
Clinical Director

Jonathan Bui, MD, PhD
Assistant Adjunct Professor of Neurosciences

Carla Grosmann, MD
Associate Clinical Professor of Neurosciences

Chamindra Konersman, MD
Assistant Professor of Neurosciences

John Crawford, MD
Associate Adjunct Professor of Neuroscience and Pediatrics

Richard Haas, MD
Professor of Neurosciences and Pediatrics

Sonya Wang, MD,
Assistant Clinical Professor of Neurosciences

Doris Trauner, MD
Professor of Neurosciences and Pediatrics

Michelle Sahagian, MD
Assistant Clinical Professor of Neurosciences and Pediatrics

Mark Nespeca, MD
Clinical Professor of Neurosciences and Pediatrics

Jennifer Fraidman, MD
Clinical Professor of Neurosciences and Pediatrics

Joseph Gleeson, MD
Rady Professor of Neurosciences

Jeffrey Gold, MD, PhD
Assistant Clinical Professor of Neurosciences

Carla Grossmann, MD
Associate Clinical Professor of Neurosciences and Pediatrics

Richard Haan, MD
Professor of Neurosciences and Pediatrics

Shifteh Sattar, MD
Assistant Professor of Neurosciences

Doris Trauner, MD
Professor of Neurosciences and Pediatrics

Michelle Sahagian, MD
Assistant Clinical Professor of Neurosciences and Pediatrics

Mark Nespeca, MD
Clinical Professor of Neurosciences and Pediatrics

Michelle Sahagian, MD
Assistant Clinical Professor of Neurosciences and Pediatrics

Shifteh Sattar, MD
Assistant Professor of Neurosciences

Doris Trauner, MD
Professor of Neurosciences and Pediatrics

Sonya Wang, MD:
Assistant Clinical Professor of Neurosciences
The Division of Pediatric Neurology has an active outpatient clinic adjacent to RCHSD, and sees over 4,000 patient visits per year. Faculty members also see patients at satellite clinics in Encinondo, Encinitas, Murrieta, and Oceanside, California.

Inpatient admissions and consultations to the pediatric neurology service number approximately 1,500 per year. In addition to inpatient coverage at RCHSD, the division provides neurologic consultation services to the Neonatal Intensive Care Units at the UCSD Medical Center, Sharp Mary Birch Hospital, and Scripps Mercy Hospital in San Diego.

The Clinical Neurophysiology Laboratory provides comprehensive EEG and EMG services and conducts over 2,000 EEGs and 150 EMGs annually. An active inpatient epilepsy monitoring unit provides continuous EEG monitoring for epilepsy patients. Continuous EEG monitoring is provided in the Pediatric Intensive Care Unit and the Neonatal Intensive Care Units as well.

Patients with all types of neurological conditions are seen by our faculty. In addition to general neurology clinics, there are a number of specialty clinics at the main site, including autoimmune, intractable epilepsy, headache, movement disorders, neurogenetics, neonatal neurology, follow-up, neurodevelopmental disorders, Rett syndrome, neuro-metabolic, cerebrovascular, neuro-oncology/brain tumor, and neurocutaneous syndrome clinics.

**Clinical Activities**

**Fellows**

- **Natanya Maio, MD**
- **Dillon Chen, MD, PhD**
- **Andrew Ng, MD**
- **Alyia Frederick MD, PhD**
- **Aileen Tanaka MD**

**Research Activities**

The Division runs an ACGME-accredited training program in pediatric neurology in conjunction with the adult neurology training program at UCSD Medical Center and UCSD School of Medicine. Trainees are eligible to participate in the San Diego Veterans Administration Medical Center for adult neurology training, and at RCHSD for pediatric neurology training.

An ACGME-approved neurology fellowship is also available in conjunction with the adult neurophysiology training program at UCSD Medical Center. Graduate students and postdoctoral research fellows are also an active part of the divisional teaching activities. Faculty members participate in several graduate programs, including the UCSD Neurosciences Program, the UCSD-SDSU Joint Doctoral Program in Clinical Psychology, the UCSD-SDSU Joint Doctoral Program in Speech-Language Pathology, and the UCSD Graduate Program in Cognitive Science.

The division faculty also provides both formal lectures and bedside/clinical teaching to residents in Pediatric, Neurology, Psychiatry, Emergency Medicine, and Family Practice and to medical students both in the preclinical and clinical years. An elective rotation that includes both inpatient and outpatient training is open to fourth year medical students. Developmental-Behavioral Pediatrics Fellows spend one month on the child neurology outpatient service during the course of their training.

The faculty in pediatric neurology provides daily teaching rounds on the inpatient service at RCHSD, as well as weekly teaching rounds in the RCHSD Neonatal Intensive Care Units for which they provide neurologic coverage.

Didactic sessions in child neurology include weekly lecture series for child neurology trainees, monthly journal club, monthly noon lecture series for pediatrics house staff and students, monthly case conferences, monthly neuro-radiology rounds, monthly neuropathology conference, monthly quality improvement activities, and yearly lecture series to adult neurology residents and child psychiatry fellows.

One of the most recent additions is the establishment of a formal curriculum for Pediatric Neurology-Oncology Rotation for residents and fellows.

**Teaching Activities**

- **Dennis Trauner, MD**
  - Dr. Trauner has clinical interests encompassing neurodevelopmental disorders, including autistic spectrum disorders, language and neurodevelopmental disorders, epilepsy and epileptic behavior syndromes, and neurocutaneous syndromes.
  - **Sonya Wang, MD**
  - Dr. Wang is a pediatric epileptologist with special interest in epilepsy manifestations in children.
  
**Research Support**

- **John Crawford, MD**
  - Clinical Trial Protocol 14-15C-HBBH
  - 07/2012 – 02/2014
  - Cost Remunerable
  - "A Phase 1 Trial of LY2940690 in Pediatric Patients with Recurrent or Refractory Rhabdomyosarcoma or Medulloblastoma"


Differentiation. 2014 Mar-Apr;87(3-4):134-46.


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PMCID: PMC3948853.

PMCID: PMC3949653.

PMID: 25283752.

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AWARDS

John Crawford MD, MS
• Junior Faculty Teaching Award Department of Neurosciences, University of California, San Diego, 2013
• Junior Faculty Teaching Award Department of Neurosciences, University of California, San Diego, 2014
• Senior Faculty Teaching Award Department of Neurosciences, University of California San Diego, 2015
• Leonard Tow Humanism Award in Medicine Nominee, 2015
• "Top Pediatric Neurologist" San Diego Magazine, 2015

Jennifer Friedman, MD
• Junior Faculty Teaching Award Department of Neurosciences, University of California, San Diego, 2013

Joseph Gleeson, MD
• 2014 Elected member, Dana Alliance
• 2014 Elected member, Assoc Amer Physicians
• 2014 Elected member, Institute of Medicine, National Academy of Sciences

Carla Grosmann, MD
• CureCMD (Congenital Muscular Dystrophy) Physician Outreach Committee Member
• Present Sarepta Advisory Committee
• Roigen Idec: SMA Operating Model Advisory Board Meeting
• AAN Muscular Dystrophy Measure Development Work Group

Richard Haas, MD
• Editor, European Journal of Child Neurology
• Editorial Boards of the journal “Mitochondrion” and “Journal of Rare Disorders”

Mark Nespeca, MD
• Best Doctors in America, 2011-2015
• Chairman, Professional Advisory Board Epilepsy Foundation of America, San Diego Affiliate
• Vice Chairman of Programs, Board of Directors Epilepsy Foundation of America, San Diego Affiliate
• Member, Scientific Advisory Committee Angelman Syndrome Foundation
• Member, American Epilepsy Society, Self Assessment Exam Advisory Committee

Jeffrey Neul, MD, PhD
• National Institute of Health, Neurological Sciences Training (NST-1) Study Section, standing member
• National Institute of Health, Molecular Neurogenetics Study Section, standing member

Doris Trauner, MD
• Elected to AHA Medical Honor Society, VCU/MCV School of Medicine, June 2013
• America’s Top Doctors, 2011-2015
• Best Doctors in America, top 1%, US News and World Report, 2013
• American Academy of Neurology Alliance Awards Committee, 2009-present
• Cure Cystinosis International Registry Medical Advisory Board, 2011-present
Residency Program
INTRODUCTION

Mission: To train residents to become leaders in the practice of general and subspecialty pediatric medicine.

Goal: To train tomorrow’s pediatricians, with an emphasis on excellence in patient care, the refinement of critical thinking skills, the acquisition of advanced technical skills, the integration of research into practice, and the development of life-long learning skills.

Our program is unique in its exposure to a large and diverse pediatric population with breadth in general and subspecialty medicine, placing special emphasis on community pediatrics, behavioral pediatrics, academic/research pediatrics, and border health. During the three years of training, the resident will evolve progressively with increasing knowledge and responsibility in all aspects of general pediatric medicine.

Our UCSD residents participate in a variety of programs for continued intellectual growth. Multiple didactic opportunities are incorporated into the curriculum to enhance resident development and training. Our program recognizes the importance of close supervision and mentorship with a goal to develop a close relationship between the house staff and faculty. Continued opportunities in career development are fostered with exposure to academic and community resources, allowing the resident to gain the tools to advance their careers. Additionally, exciting new growth has occurred in the department to expand resident opportunities in career development are fostered with exposure to academic and community resources, allowing the resident to gain the tools to advance their careers. Additionally, exciting new growth has occurred in the department to expand resident exposure to Global Health, advocacy training and quality improvement.

FACULTY

Mark H. Sawyer, MD
Program Director

Christopher Camarrino, MD
Associate Program Director

PROGRAM ADMINISTRATION

Allison Reinhardt, Residency Program Administrator
Joanne Albrecht, Residency Program Assistant

TEACHING ACTIVITIES

The PL-1 is expected to take full initiative in the workup and management of patients under the guidance of supervising resident and attending physician. Intensive exposure is provided to ill children and to children with normal birth, growth and development. During the first year, inpatient pediatrics is taught at RCHSD. The pediatric house officer cares for children with a large variety of pediatric problems, ranging from uncomplicated illnesses to complex diseases with multiple organ involvement. In the PL-1 year, residents also participate in the stabilization and care of the sick neonate. The Neonatal Intensive Care Unit (NICU) at UCSD has a busy delivery service and is a Level III nursery that receives transports of critically ill babies from around San Diego County. The first year resident also spends one month in the Newborn Nursery at UCSD learning to care for normal newborns and common problems appropriate for a general pediatrician. The outpatient experience is varied during the first year and exposes residents to many facets of ambulatory care including emergency medicine, adolescent medicine, general pediatrics and developmental and community pediatrics.

The Community Pediatrics rotation exposes the resident to the important role pediatricians now play in the community. This includes interacting with local schools and child care centers (both as a consultant and on behalf of patients), advocating for child health issues and collaborating with professionals from other disciplines that also care for children.

The PL-2 year builds on the experiences of the first year with emphasis on patient management and triage of the ill child. The PL-2 resident rotates through the inpatient ward at RCHSD and experiences increased independence and decision-making. Additionally, the second year resident rotates one month in the Pediatric Intensive Care Unit at RCHSD gaining experience evaluating and managing critically ill children. The resident continues to have an emergency room experience evaluating acutely ill children during the PL-2 year. One month of the second year is dedicated to the care of patients in developmental-behavioral pediatrics. Three to four months of elective time is available in the PL-2 year to enhance exposure to subspecialty medicine, and to allow resident independent time to pursue scholarly works in research or global projects.

The PL-3 year provides each resident the opportunity to enhance skills and knowledge in a wide variety of pediatric areas. The senior residents serve as supervisors and teachers to first year residents and medical students. On the inpatient wards at RCHSD, they supervise all admissions to the teaching service and train interns and medical students. Morning Report serves as a forum for in-depth discussion about patient management with subspecialists, general pediatricians and community physicians. The role of teacher extends to the outpatient clinic and emergency room, as well. The PL-3, in close consultation with attending physicians, oversees the care of clinic patients and provides guidance and expertise in general pediatrics.

The Emergency Room at RCHSD enhances the senior resident’s proficiency in managing acutely ill children. Additional expertise in the care and stabilization of critically ill children is provided through another rotation in the PICU in the third year and by working on the transport team. During the NICU rotation the PL-3 resident serves as a supervising resident to the resident service. The year is rounded out with several elective months to augment each resident’s education.

There are two to three PL-3 chief residents who serve as instructors in the Department of Pediatrics and as representatives of the Chairman of the department. They also act as general pediatric consultants to the residents and to other services.

The chief residents organize teaching conferences at UCSD and RCHSD. They also are attending physicians in the inpatient wards. This year is designed to continue to augment general pediatric knowledge through consultation, research, teaching and patient care.

RESEARCH ACTIVITIES

Juan Chapparo; Erin Murphy, Christopher Davis, Rolando M. Viani, Alix Kenna. Chest Pain and Shortness of Breath in a Previously Treated with Surgical Resection of Third Ventricular Beach in a Prenatally Healthy Teenager. Journal of Pediatric Infectious Diseases Society 2013


Juan Chapparo; Erin Murphy, Christopher Davis, Rolando M. Viani, Alix Kenna. Chest Pain and Shortness of Breath in a Previously Treated with Surgical Resection of Third Ventricular Beach in a Prenatally Healthy Teenager. Journal of Pediatric Infectious Diseases Society 2013.


INTRODUCTION

The Division of Respiratory Medicine is dedicated to improving all aspects of respiratory health affecting infants, children, and young adults. The Division has maintained a national ranking in Pulmonology in the U.S. News and World Report survey of children’s hospitals since 2009. Many of the senior faculty are internationally recognized. The clinical programs provide expert consultation, clinical management expertise, and patient and family education to children and youth with respiratory and sleep disorders in San Diego and surrounding counties, and receive referrals from throughout the U.S. and other countries. The divisional research programs range from fundamental basic investigations regarding the effect of disordered respiration, hypoxia and hypercapnia on cell function and cell fate in brain, heart and lung, to cutting-edge basic research in pulmonary fibrosis, lung development and cystic fibrosis, and novel clinical research studies in cystic fibrosis. Divisional scholars provide research training and mentorship to future investigators from the undergraduate to junior faculty levels. The Division of Respiratory Medicine is critical to the educational mission of the Department of Pediatrics, with a well-regarded Pulmonology Fellowship program with outstanding clinical and research training, and programs specific to students, housestaff, fellows and the San Diego practice community. Dr. Lesser organizes a monthly Western states Pediatric Pulmonary Teleconference case discussion series which now includes Respiratory Medicine programs throughout the U.S. and several Canadian Provinces, to improve care of complex patients, and provide education and networking for subspecialty residents and junior faculty in Respiratory Medicine throughout North America.

DIVISION HIGHLIGHTS

$3.2 Million in Major Research Grants

Division is part of the Childhood Interstitial Lung Disease (ChILD) Research Network

MAJOR PLANS AND GOALS

The Division of Respiratory Medicine is recruiting additional clinical and research faculty to complement the existing exceptional faculty, optimize access, synergize with our existing exceptional research programs, and strengthen our educational programs.

The Division will work closely with the Rady Pediatric Genomics and Systems Medicine Institute to provide state of the art personalized and precision medicine for our patients.

Dr. Ryu is working with the Genomics Institute and Rady Children’s Hospital to optimize electronic medical records for accurate and uniform data capture throughout the health care system.

The Sleep Disorders Program will be expanding capacity for diagnosis and management of the full spectrum of childhood sleep disorders.
**FELLOWS**

- Marilyn Chau, M.D.
- Divya Chhabra, M.D.
- Elizabeth Dong, M.D.
- Eryliun Heinrichs, Ph.D.
- Taylor Iman, M.D.
- Sergio Mora Castilla, Ph.D.
- Tri-Pin Shento, Ph.D.

**TEACHING ACTIVITIES**

The faculty in the Division are committed to education at all levels, from high school students to adult learners. We have created innovative teaching experiences, to postdoctoral and international scholars doing advanced basic research projects. Our Fellowship Program in Pediatric Pulmonology is committed to future generations of students to advance respiratory science and transform clinical care. We have recruited exceptional trainees, who are engaged in exciting research projects in microbe, epigenomics, and bioinformatics. Two of our fellows have received prestigious Scientific Education Program (SPED) Awards.

We are committed to promoting the best evidence-based and physiology-based care for children with respiratory disorders by educating residents in inpatient and outpatient settings, and by providing continuing education for physicians in the community we serve.

**RESEARCH ACTIVITIES**

The Division’s research activities comprise a rich and diverse portfolio of the most advanced and innovative respiratory science, from fundamental cellular and molecular investigations of ion flux, hypoxia signaling, and cell phenotype regulation, to preclinical models of lung disease and innovative therapeutic strategies, to genomic and integrated multi-platform systems biology approaches to elucidate mechanisms of adaptation to hypoxia, lung development, and fibroproliferation.

James S. Hagod, MD, the Division Chief, studies the molecular regulation of fibroblast phenotypes in pulmonary fibrotic disease and lung alveolarization. He also studies the roles and regulation of Tgf-1, a critical modulator of cellular phenotype, and epigenetic/epigenomic alterations in lung development and disease, and targeted therapy for diffuse lung diseases.

Gabriel G. Haddad, MD, studies the role of ion channels in neurons in a low O2 environment. He is also interested in the genetics of susceptibility or tolerance to low or high O2 and the role of gene expression in excitable tissues. He also studies obstructive sleep apnea and the role of hypoxia and hypercapnia on growth and development.

Kathryn Akong, MD, PhD, carries out clinical and translational research investigating new therapeutics for cystic fibrosis.

Priti Athad, PhD, studies mechanisms by which intermittent (e.g., obstructive sleep apnea and sickle cell disease) and constant hypoxia (e.g., asthma) lead to cell injury and morbidity or adaptation and survival using Drosophila as well as cell culture model systems.

Mateja Cerecic-Kohan, MD, studies the role of extracellular microvesicles in pulmonary fibrosis.

Daniel Lesser, MD, is involved in clinical research investigating the role of sleep disorders breathing in metabolic disease, and lung index related in children with neuromuscular disease.

Paul M. Quinton, PhD, investigates the effects of the genetic defects in fluid and electrolyte transport in cystic fibrosis on pathophysiology in the airways, intestine, and sweat glands in cystic fibrosis and related diseases.

Julie Roya, MD, studies innovative methodologies including remote monitoring of asthma management and optimizing the electronic medical record for clinical research.

A.K.M. Shamsuddin, PhD, studies β-adrenergic sweat stimulation, sweat diagnostic testing and electrolyte transport across normal and cystic fibrosis sweat gland and native small and large airway (pigs and humans) epithelia.

Simon Wong, PhD, studies novel therapeutic modalities and therapeutic targeting in animal models of lung fibrosis, as well as possible therapeutic roles of microvesicles in lung injury.

Jin Xue, MD, PhD, studies the genetic and molecular basis of sodium hydrogen exchanger isoform 1 (NHE1)-mediated cardiac injury.

Hung Tao, PhD, studies the cellular and molecular mechanisms of pneumonial cell death in focal cerebral ischemia.

Haiwen Zhou, PhD, studies mechanisms of hypoxia adaptation using induced phenotypic stem cell-derived neurons obtained from patients with chronic mountain sickness

Dan Zhou, PhD, studies the genetic and molecular mechanisms underlying susceptibility and tolerance to hypoxia and hypoxia-evoked changes in model organisms and humans.

**RESEARCH SUPPORT**

- Kathryn Akong, MD, PhD, Cystic Fibrosis Foundation PACE (Program for Adult Care Excellence) April 2015–March 2018 $25,000
- Gabriel Haddad, MD, SPO2 HLD(8050)-3 (PI) July 2010–June 2015 $1,881,795 NIH "Molecular mechanisms of hypoxia tolerance and susceptibility"
- James S. Hagod, MD, R01 HL111189 (PI) July 2012–July 2017 $241,147 NHLBI "Targeting the Apoptosis-Resistant Pulmonary Myofibroblast"
- James S. Hagod, MD, R01 HL111189 (PI) July 2012–July 2016 $129,818 NHLBI "Targeting the Apoptosis-Resistant Pulmonary Myofibroblast"
- Carmen Taye, MD, Ph.D, R01 HL08218-01 (PI) August 2007 – July 2013 $218,422 NHLBI "Regulation of Fibroblast Phenotype in Lung Fibrosis"
- Peter H119165 (Project-PI) Sep 2014 – August 2019 $81,000 NHLBI "Alveolar DevMap"

**PUBLICATIONS**


**INTERESTS**

- A critical review of the Apoptosis-Resistant Pulmonary Myofibroblast research of the most advanced and innovative respiratory science, as well as the best evidence-based and physiology-based care for children with respiratory disorders by educating residents in inpatient and outpatient settings, and by providing continuing education for physicians in the community we serve.
Vulnerable Children
(The Chadwick Center)
The Chadwick Center for Children and Families is Rady Children’s Hospital-San Diego (RCHSD)’s response to child abuse and neglect, domestic violence, and post-traumatic stress in children. The staff is comprised of a variety of professionals in disciplines ranging from medicine and nursing to child development, social work, and psychology. The Chadwick Center (http://www.ChadwickCenter.org) is located off the main hospital campus at the Children’s Hospital Health Services building and provides services at satellites from Oceanside to Chula Vista. Chadwick services are also delivered at the Polinsky Center and at a wide variety of community agencies.

The Center works with overwhelmed families to prevent abuse and neglect, supports law enforcement and child protection services when abuse is suspected to accurately and sensitively gather the facts in ways that minimize secondary trauma, and then helps victimized children and their families heal through one of the largest specialized trauma mental health programs in the nation.

The Chadwick Center’s expertise in treating abuse-related trauma has led to collaborations with the National Child Traumatic Stress Network and the expansion of treatment to work with child and adolescent victims of other forms of violence (such as school shootings), natural disasters (wild fire victims), auto accidents and children undergoing painful medical procedures.

The Chadwick Center should expand its leadership role locally and nationally in advancing the best evidence-based or supported practice, teaching others to actually implement the practices in real world settings.

The Chadwick Center should build upon its experience and reputation for quality and continue to expand the quality of service delivery, add new evidence-based practices, empirically test those practices, and then teach others locally, nationally, and internationally to deliver similar level quality services.

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INTRODUCTION

The Chadwick Center for Children and Families is Rady Children’s Hospital-San Diego (RCHSD)’s response to child abuse and neglect, domestic violence, and post-traumatic stress in children. The staff is comprised of a variety of professionals in disciplines ranging from medicine and nursing to child development, social work, and psychology. The Chadwick Center (http://www.ChadwickCenter.org) is located off the main hospital campus at the Children’s Hospital Health Services building and provides services at satellites from Oceanside to Chula Vista. Chadwick services are also delivered at the Polinsky Center and at a wide variety of community agencies.

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DIVISION FAST FACTS

The Center provides education to over 22,000 professionals from the US and 30 countries worldwide

Our program serves over 9,400 children and families annually

MAJOR PLANS AND GOALS

The Chadwick Center should build upon its experience and reputation for quality and continue to expand the quality of service delivery, add new evidence-based practices, empirically test those practices, and then teach others locally, nationally, and internationally to deliver similar level quality services.

The Chadwick Center should expand its leadership role locally and nationally in advocating for the best evidence-based or supported practice, teaching others to build their capacity, and assisting them to actually implement the practices in real world settings.

The Chadwick Center should further build the engagement of its staff and focus on equipping its workforce with the knowledge, skills, tools, and resources they need to do extraordinary work.

The Chadwick Center should expand its leadership role locally and nationally in advocating for the best evidence-based or supported practice, teaching others to build their capacity, and assisting them to actually implement the practices in real world settings.

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While RCHSD’s Chadwick Center will never be able to serve all the children in need in San Diego, it should remain the safety net provider that brings the highest level of expertise to the medical and affected children and their families, while training others to deliver high quality services to less severely affected children.

CLINICAL ACTIVITIES

The Chadwick Center serves over 9,400 children and families per year through two interrelated programs from three sites countywide.

Forensic and Medical Services

- Over 2,000+ children receive expert medical assessment or a forensic interview for abuse or are evaluated and treated for impaired growth and developmental concerns through the Failure to Thrive Clinic. Close to 1,000 children are evaluated and treated medically at the Polinsky Children’s Center. The Chadwick Center facilitates the weekly San Diego County Child Protection Team meeting to discuss complex child abuse cases. 2015 marked the Team’s 39th anniversary, making it one of the longest running multidisciplinary child abuse team meetings in the world. Attendees include hospital professionals, law enforcement, child protection professionals, and district attorneys.

- Trauma Counseling: 1,793 individual children and parents involved in child abuse, domestic violence and other forms of trauma attended more than 27,023 therapy sessions. The Chadwick Center continues to be among the leaders in the use of research-supported therapies such as Trauma Focused-Cognitive Behavioral Therapy (TF-CBT), Parent-Child Interaction Therapy (PCIT) and Child Parent Psychotherapy (CPP) for very young trauma victims. Additionally many children and caretakers are emotionally prepared to testify in court through the Kids & Teens in Court program, helping reduce their fear and anxiety of testifying in front of the person who hurt them. San Diego County continues to utilize the services of Rady Children’s to design and manage the KidSTART system for San Diego focusing on very young children with severe emotional and developmental challenges, often associated with extreme trauma exposure. This is a joint project of the Chadwick Center, Developmental Services and Psychiatry with Chadwick leading the young child mental health treatment component. In KidSTART, more than 405 individual children were seen and attended many therapy sessions.

The Chadwick Center has a long tradition of sponsoring nationally and internationally-recognized professional education opportunities. The Center provides professional education to more than 22,000 professionals from throughout the United States and 30 countries worldwide. In addition, the Center provided continuing medical education and support to several medical conferences to over 1,000 national pediatrics on advanced topics including cardiology, dermatology, genetics, neonatology, gastroenterology, neurology, infectious disease, adolescent medicine, and others.

- The Center supported the hospital’s weekly Grand Rounds, which consists of various medical topics to over 15,000 physicians and healthcare staff. The Chadwick Center’s Clinical Training Program provides training in the assessment and treatment of child abuse to professionals nationally and at the Center. The California Mandated Reporter Training web site (www.MandatedReporterCA.com) is composed of seven modules and designed to train mandated child abuse reporters so they may carry out their responsibilities properly. To date, over 300,000 tests have been taken and the web site has been visited by over 400,000 individuals.

- For more than two decades, the Chadwick Center at Rady Children’s has led the world in developing strategies and programs to prevent child abuse through the San Diego International Conference on Child Maltreatment, hosted by the Chadwick Center. This past January, the Chadwick Center held its 26th Annual Conference, drawing more than 2,000 attendees from the United States and around the world. Each year, this conference seeks to provide research evidence-based best practices to professionals working in the fields of medicine, mental health, criminal justice, child welfare, public policy and research. The conference includes more than 150 workshops and world-renowned speakers. And because each year in the United States, approximately five million children experience some form of traumatic experience, the Center’s impact is more important than ever.

- The Chadwick Center also continues to be a national and state leader in the identification and spread of research-based clinical practices. This work includes a heavy demand for TEACHING ACTIVITIES

The Chadwick Center should expand its leadership role locally and nationally in advocating for the best evidence-based or supported practice, teaching others to build their capacity, and assisting them to actually implement the practices in real world settings.

The Chadwick Center should build upon its experience and reputation for quality and continue to expand the quality of service delivery, add new evidence-based practices, empirically test those practices, and then teach others locally, nationally, and internationally to deliver similar level quality services.

FACULTY

Marilyn Kaufhold, MD
Medical Director,
Clinical Instructor of Pediatrics

Premi Sarwak, MD
Assistant Clinical Professor of Pediatrics

Wendy Wright, MD
Staff Physician

Lorena Vivanco, MD
Staff Physician
Chadwick Center speakers around the nation. Rady Children’s Chadwick Center expanded its California Evidence-Based Clearinghouse for Child Welfare which is charged with helping reform the state’s child welfare services using research-supported practice models. This web based resource, which now includes 42 topic areas with reviews on over 339 separate program models and 20 screening and assessment tools (www.cebc4cw.org), has been visited by over 640,455 individuals from 219 countries/territories. Some of the topics included on the website include Cultural resources, General Tools and resources for the professional to utilize in their practice.

In addition to these professional education programs, the Chadwick Center provides education to pediatric residents form UCSD, Naval Medical Center, San Diego, and other states and emergency department follows through core rotations during the training years.

RESEARCH ACTIVITIES

RESEARCH SUPPORT


RESEARCH ACTIVITIES


AWARDS & HONORS

NCA Recertification - The Board of the National Children’s Alliance, the national accrediting body for multi-disciplinary child abuse centers awarded the Chadwick Center full accreditation status for the next five years after thorough review and site visit.


Marilyn Kudthold, MD, received the Physician Excellence Award for Excellence in Clinical Care.

Al Killen-Harvey, LCSW, currently serves as the co-chair of the Cultural Consortium for the National Child Traumatic Stress Network.

Charles Wilson selected 2015 Social Worker of the Year: Helping Families Flourish Award – Macro Category by the schools of Social Work at USC, SDSU, CSUSM and the San Diego Chapter of the National Association of Social Workers.