Is your child’s teeth brushing good enough?

UCSF School of Dentistry offers advice on good oral hygiene

DEPRESSION IN CHILDREN
Children’s pediatric psychologist Petra Steinbuchel, MD, addresses childhood depression
Dance Medicine Program

Oakland • Walnut Creek • San Ramon
Appointments: 510-428-3238

The program

The Dance Medicine Program’s goal is to provide the youth dance community with the highest quality injury care and preventative resources to enable optimal performance for the long term.

Our experts:
- Understand the unique requirements for a dancer’s feet, ankles, knees, hips, and back.
- Teach balance, posture, and strengthening exercises.
- Create individually tailored exercise programs.
- Incorporate Pilates-based rehabilitation.
- Perform pointe-readiness evaluations.
- Educate athletes on ways to prevent injury.
- Conduct 2D/3D motion analysis evaluations.

Dance Medicine Clinic

Our Dance Medicine Clinic includes a one-on-one comprehensive evaluation with a pediatric orthopaedic surgeon and a physical therapist with personal dance experience.

First Monday of every month
1 to 4:30 p.m.
744 52nd St., Oakland
510-428-3238

Benefits of the program:
- Learn why a specific injury occurred and how to prevent it the future
- Optimize proper dance technique with corrective exercises
- Obtain an individualized sports nutrition plan that supports the dancer’s training, performance, and recovery.

For all types of performing artists

We treat:
- All performance skill levels (from recreational to professional dancers), in a wide range of genres (e.g., ballet, jazz, tap, contemporary, African, Irish, etc).
- All types of performance artists, including gymnasts, cheerleaders, musicians, and figure skaters.

Dance medicine team members

Our Dance Medicine team consists of:
- Pediatric Orthopaedic Surgeons
- Physical Therapists/Certified Pilates Instructors
- Registered Dietitian
# CHILDREN’S HANDPRINTS SPRING 2016

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**To contact the UCSF Benioff Children’s Hospital Oakland departments and services featured in this issue:**

- **President’s Letter**, page 5: [www.chonext100.org](http://www.chonext100.org)
- **Research Update**, page 12: Kidney Stones and Zinc: David Killilea, PhD, dkillilea@chori.org Soda Study: sams.studysites.net or CRCstudy.org 866-513-1118
- **Sports Medicine Center for Young Athletes**, page 14: Oakland, 510-428-3558 San Francisco, 415-353-2808 San Ramon, 925-979-3450 Walnut Creek, 925-979-3430
- **Sports Nutrition**, page 15: 510-428-3772
- **Pediatric Dentistry**, page 18: 415-476-3276 or 510-428-3316
- **Severe Asthma Services**, page 19: 510-428-3305
- **Volunteering**, page 21: Hospital: 510-428-3471 CHORI: volunteers@chori.org
- **Foundation**, page 22: To make a donation to the hospital, go to give.ucsfbenioffchildrens.org
**Calling all young athletes!**

Are you a young athlete (under 25) or the parent of a young athlete age 5 to 25?

**We want to hear from you.**

The Sports Medicine Center for Young Athletes at UCSF Benioff Children’s Hospitals is the Bay Area’s most comprehensive sports medicine center that focuses exclusively on athletes ages 5 to 25. We want to hear from young athletes and their parents so we can continue to expand and enhance our world-class Sports Medicine programs.

To take the survey, go to [www.bitly.com/ucsfsportsmedsurvey](http://www.bitly.com/ucsfsportsmedsurvey)

To thank you for your insights, we will enter you into a drawing to win an iPad Air 2.*

*16GB Wi-Fi model

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The medical information contained in this newsletter should not be substituted for advice from your child’s pediatrician.

If you do not wish to receive future issues of this publication, please email to comm@mail.cho.org your name and address as they appear on the mailing panel.

If you’d like to write to the editor of Children’s HandPrints, please send an email to editor@mail.cho.org.
Dear Friend and Neighbor,

On October 26, 2015, UCSF Benioff Children’s Hospital Oakland groundbreaking ceremony took place at the future home of the hospital’s second outpatient center. This event marked the first phase of a 10-year expansion project that includes rebuilding and modernizing the hospital to meet seismic regulations and improve facilities for children, adolescents, and their families. The OPC2 building will be a six-story, 89,000-square-foot outpatient center that will adjoin the present outpatient center. There will be clinics for cardiology, rehabilitation, neurology, and other subspecialties. The entire Master Plan project also includes a rebuilding of the main hospital that will increase the number of patient beds to 210 onsite; create individual patient rooms; and add new surgical, diagnostic, and treatment rooms, as well as support services and clinics.

We are thrilled to begin the next chapter in UCSF Benioff Oakland’s amazing journey. For more than 100 years, the hospital has strived to provide the best medical care for our patients. Our Master Plan project will enhance the hospital’s ability to focus on family-centered care with innovative, modern, and seismically compliant buildings and technology. Our new outpatient center represents another step in our plan to provide the highest quality medicine in state-of-the-art medical facilities.

Bertram Lubin, MD
UCSF Benioff Children’s Hospital Oakland
President & Chief Executive Officer

To learn more about Children’s Master Plan, go to www.chonext100.org.
Giving Thanks for Children’s Hospital
By Melissa Montoya

I have a favorite sign that I keep on display in my office that says, “Once you choose hope, anything is possible.” Children’s Hospital is a place of hope and help.

This past Thanksgiving, my son Maxwell and I truly had reason to celebrate the holiday. Max is now 26 years old, and this was the first Thanksgiving since he was about 12 that he didn’t have to be fed through his gastric feeding tube. He eats very slowly, so it took him about an hour and a half, but he downed an entire plate of food and loved it!

In late September, Max’s gastroenterologist at Children’s, Dr. Elizabeth Gleghorn, made the decision to remove the tube. Even though Max is an adult, the surgery was performed at Children’s because it was part of their commitment to provide ongoing care.

Our lengthy experience at Children’s began shortly after Max’s difficult delivery in August 1989. After 22 hours of labor, he was born with large hematomas on his head. He was so small for a full-term baby—only 5 pounds, 15 ounces. He was listless and didn’t move much. I was a first-time mother, so I didn’t know what to expect. Within three weeks, he started to have episodes when he would turn ashen white. At the advice of Max’s pediatrician, I rushed him to Children’s emergency room with the next episode. They tested his blood and found overactive pain receptors and an aversion to being touched. Max didn’t grow very much, didn’t like eating, and was lethargic. Tests confirmed physical problems with eating and swallowing.

Getting Max to eat became a major focus. I took a leave of absence from my job at PG&E to care for him. When Max was 10, Dr. Gleghorn proposed a gastric feeding tube. This posed another dilemma: Max also had two spinal deformities—scoliosis (a curvature of the spine) and kyphosis (an exaggerated rounding of the back). If he grew because of the feeding tube, it might exacerbate the problems with his back.

We discussed all the pros and cons of the feeding tube with Max. It was a difficult decision, but we finally agreed to do the surgery. Max received 1,200 to 1,600 calories a night while he was connected to a food pump machine. We continued to encourage him to eat so that eventually he might be able to have the tube removed.

Max did begin to grow. Unfortunately, his spinal deformities grew along with the rest of his body, and eventually the growth of the deformities became life-threatening. In April 2008, Max underwent a 12-hour back surgery at Children’s. That same day his younger sister Morgan carried the Beijing Olympics torch through San Francisco on Max’s behalf. The back surgery was successful, and we were able to keep the feeding tube in place. Max fulfilled his dream to walk across the stage during his high school commencement in 2008. And he still has the Olympic torch.

The removal of Max’s gastric feeding tube last fall was another graduation of sorts. Through all the twists and turns in Max’s life, Children’s Hospital has helped to diagnose and treat him, and he has progressed. He feels safe and at home at Children’s. Every time Max had to go to Children’s, he’d say, “This is my hospital, and they’re going to be able to help me.”

All of the doctors, nurses, technicians, therapists, and volunteers who cared for Max at Children’s contributed to get Max to where he is today. He has his own apartment with independent living assistance. A talented drummer, he plays in the jazz band at Diablo Valley College, where he goes to school. He had a job as a waiter for five years until the restaurant closed, and he is looking for another job. He plays forward on the Walnut Creek Golden Bears Special Olympics basketball team, which has taken the gold medal for the last three years.

When I look at where we are now, I am amazed at how far we’ve come. Max is my miracle, and raising him has been a marathon. To help repay all their kindnesses, I donate to Children’s Hospital monthly, and I encourage others to contribute, too. I also have named Children’s in my revocable trust. We are so thankful for everything the people at Children’s have done for us.

Top: Children’s pediatric gastroenterologist Elizabeth Gleghorn, MD, visits with Max after his feeding tube was removed; Max as a toddler; Max with his sister Morgan after she carried the 2008 Olympic torch on his behalf. Above: Max with his mom.
If my child seems much better, is it okay not to finish the entire prescription? My child seems fine without the medication.

This question commonly comes up regarding antibiotics. Your child should always finish the entire prescription, even if your child starts to feel better. The antibiotic is helping your child’s body fight off an infection from a bacteria or virus. As the infection reduces, your child will begin to feel better. The only way to make sure the infection continues to decrease is to keep the antibiotic in the bloodstream. With antibiotics, always finish the prescription.

Other medications may have been prescribed to be taken “only as needed” for certain symptoms. The entire prescription may or may not be used. Always check with your doctor or pharmacist if you are unsure.

Can old medication be thrown away in the trash or flushed down the toilet?

Expired medications should always be disposed of. If you have a medication in the original manufacturer’s bottle, it will have a stamped expiration date. An expiration date that states 10/16 means that the medication will retain its potency until the last day of October 2016. If your child’s prescription is in a vial or bottle, it will usually have an expiration date of 1 year. The pharmacist will make sure that the expiration date is on the bottle.

If the medication has expired, it should be disposed of to reduce harm from accidental exposure or misuse. Medications should not be flushed down the sink or toilet. Flushing medications creates environmental concerns, and the medication may end up in the community water supply. Many communities offer “take back” programs that will accept your old medications. Your local pharmacy may be able to provide a list of locations.

Most medications can be thrown in the household trash. You should remove the medication from the container and mix the medication with an undesirable substance such as kitty litter, used coffee grounds, or dirt. This makes the medicine unappealing or unrecognizable. Place the mixture in a sealable bag or empty container to prevent leakage. If you are in doubt on how to dispose of old medications, ask your pharmacist.

If my child forgets to take a dose, should we double the next dose?

You should never double the next dose of a medication if your child forgets a dose unless you have spoken with your doctor of pharmacist. This is a very important question that should be asked prior to receiving the medication.

Should I always make sure my child eats food before taking medicine?

Some medications are not absorbed well if taken with dairy products or other food and become less effective. Your pharmacist will usually attach a sticker to the medication bottle indicating whether or not the medication should be taken with food. A little food may help with common side effects from some medications. Ibuprofen, commonly used for fever or pain, may cause an upset stomach. This side effect can be reduced if the medicine is taken with a little food.

Is it okay to cut pills in half or crush them to mix into foods?

Ask your pharmacist if the medication can be cut or crushed and mixed into foods. Be sure not to use more food than your child will finish. Make sure your child is hungry or ready to eat; otherwise your child may not take the dose. Do not leave the medication in the food for many hours because the medication may start to degrade in the food or overtake the flavor of the food.

Is the best place to keep medicine the medicine cabinet?

Storage conditions affect medications’ potency. In general, medications should be stored in a cool, dry place at room temperature away from light and in a secure location where an exploring child cannot reach them. The bathroom cabinet is not a good place because the humidity from the shower or bathtub can break down or change the medication. Some antibiotics are only stable in a dry powder form, and when they become wet, they become less stable.

Other medications need to be refrigerated because higher temperatures make them less stable or cause them to change. Some examples are certain eye drops or insulin. However, some liquid medications may become too thick or viscous if placed in the refrigerator.

Your pharmacist can tell you the best way to store your child’s medication to assure that the medication will be as effective as possible.
I

n 1972, the game Pong was released. This was the first video game that my friends and I had ever seen; pinball was our version of an electronic play experience. We were so excited as freshmen at college to play this game and began to spend more time and quarters on the Pong console at the Student Union—not realizing how much we were focusing on a screen with a slow-moving computerized ball, spending more time and more quarters on the game and less time with our studies and with each other! Fortunately, this genre of play held my attention for only a short period (plus, it became expensive to keep putting quarters in the machine).

Over the years, video games have become more realistic, violent, and competitive. Online gaming communities have developed, the realism of the games has become startling, and the themes have reached across all ages, from 3 to 93.

As a practicing developmental-behavioral pediatrician of 30 years, I have observed a significant shift in children and teens engaging in a sedentary activity like gaming. What has increased is the sheer number and accessibility of these games for youth, the time spent on these games, parents’ frustrations and battles with their children about these games, and the aggressiveness of the games. What has decreased is youth free play time (especially outdoors); attention span; sleep and rest time; and time spent on socializing, creative thinking, and other learning activities.

The way video gaming affects our children is still not completely understood. However, there are worrisome trends. (This author could only review several of the now hundreds of articles published on this theme.) These range from physical health effects to emotionally negative experiences. As well, there is now alarming research showing how youth’s reactions to different age-appropriate disagreements amongst themselves is becoming more aggressive.

It is estimated that American youth on average spend more than seven hours per day on electronic media, including video gaming, Internet and computer use, TV, and cell phones. Therefore, the concern is not only about the time spent in front of a screen, but time not spent in other activities and pursuits, including reading, music and art, performing arts, clubs, and age-appropriate supervised and semi-structured play. In other words, an appropriate question to ask is: What are our children and teens missing out on that they cannot experience in a sedentary activity like gaming?

A recent publication, The 2015 Essential Facts About the Computer and Video Game Industry by the Entertainment Software Association (an association for video game producers) estimates that 155 million Americans played video games in 2014. Twenty-six percent (>40 million) are children and teens below the age of 18. More boys than girls play video games; however, there is a continuing and steady increase in the number of girls who choose gaming as an activity.

The same report indicates that 80 percent of American households own a device to play video games with. The bestselling video games, according to this publication, are action and shooter games. Half of the top 10 bestselling titles of 2014 were violence-themed; of the other half, aggressive action plays a significant role in the games’ strategy and action.

In 2014 alone, video games accounted for $5.3 billion in sales; combined with other formats, total sales of electronic games were $22.4 billion. Further, it is difficult to gain accurate statistics on how much time children/adolescents are playing per week; nonetheless, a 2015 press release from a national market research firm The NPD Group, indicates that the 2- to 12-year-old age group is increasing their games purchases, second only to the age group 25- to 44-year-olds.

Health consequences of too much time spent with electronic media have been researched—including the risk of becoming overweight with poor nutrition, reduced sleeping, and increased risk of smoking. Further, at least with television and the Internet, youth are overexposed to violent and aggressive pictures and messaging, unrealistic sexual portrayals, and pornography. Even with the best of intentions, parental filters to protect children/teens from these are often inconsistently effective.

There are further concerns related to the impact of both the content and time spent on video gaming and education. How often have we heard of time spent on gaming rather than on homework, reading, and studying? This putting off of school-based activities just to complete this next
What are our children and teens missing out on that they cannot experience in a sedentary activity like gaming?

A study by Gentile and Gentile in 2008 describes how video games “effectively use educational principles of learning cognition and instruction,” of which one outcome they suggest is that violent video games can increase in people “aggressive thoughts, feelings, and behaviors.” As they explain it, in many different games and story contexts, “violence is the solution to whatever problem the gamer/student faces.”

Further, as Gentile and Gentile write, both the time spent playing violent and aggressively themed video games and the amount of “rated violence” in the games serve as important influences in the tendency towards “aggressive behaviors in non-game situations.” Their conclusions, amongst many that are based on theories and best practices of education, is that “violent video games appear to be exemplary teachers of aggression.”

An interesting point made by Gentile and Gentile refers to what one may conceive of as books (this author’s word) that make repetitive gaming so compelling. Of these, the “immediacy of reinforcement” from the games, combined with the effect of “overlearning” skills from playing so frequently, can lead to feelings of increased self-efficacy or competence.

To be sure, whether there is a causal link between violence-themed video gaming and increases in aggressive behavior in youth remains to be further understood and delineated from the overall increase in youth’s exposure to violent content in media, TV, and movies.

Perhaps of even more concern is that heavier-use game-playing can “crowd out engagement in other enriching activities.”

In other words, one needs to be concerned with the negative effects excessive time spent on computer and video gaming has on how children and teens communicate with each other. Some of these effects include the impact upon interpersonal communication in real time; loss of opportunities for practicing communication skills and reading non-verbal signals (body language) and voice tones; and learning about empathy.

Finally, how often have we heard parents comment that their children are complaining about being bored, saying over and over: “What can I do today?” “I’m bored; there’s nothing to do!” Perhaps the opportunity to be bored can allow for a child’s engagement with expanded thinking and creativity. As the author Sherry Turkle writes, “creative ideas come from the reveries of solitude.”

This allows for imagination. Adolescents in particular can “see boredom as an opportunity to find something interesting within yourself.” This process in turn, might promote more imaginative play and increased motivation.

While the cultural concepts and potential value of boredom extend beyond the theme of this article, many learning theorists and psychologists describe the importance of mental downtime and its connection to ourselves and creative thinking.

So what does this say about the current experiences of children and adolescents with video games? Is playing video games bad, good, developmentally appropriate, or leading to stunting?

My own answer to this question has been to empower parents to learn, think, and decide about these games as they would any other activity for their children. I encourage parents to set age, theme-appropriate, and time-conscious limits on the degree of play by their children just as they would decide on appropriateness of any other activity. As with all other activities, only a parent’s watchful eye can safeguard the development and the well-being of their children regarding video games.

Thinking back on that first Pong game, I wonder if we should have all been more aware of the power that began with a simple transistorized ball of light!

What does a neurosurgeon do?
A neurosurgeon is a doctor who performs surgical procedures on the brain, spinal cord, and nerves that leave the spinal cord. If you collect all those things together, you have a system called the nervous system. We are surgeons of the central nervous system.

How long were you in school?
After college, there were four years of medical school, then six years of residency, and then one year of fellowship to specialize in pediatric neurosurgery. In the first four years, you learn about the human body and human diseases. As you get further along in medical school, you begin to interact more with patients—adults and children. You hone your skills as a doctor during residency. I knew I wanted to be a neurosurgeon and did a neurosurgical residency. During that time I realized I wanted to work with kids, so I spent an additional year in a pediatric neurosurgery fellowship.

What skills do you need?
You have to have patience because the training takes a very long time. Because the surgeries that we do are in delicate parts of the brain, they take a long time as well, so you have to have the patience to be there for quite some time. To be a surgeon, it’s useful to have good eye-hand coordination. Some of my colleagues didn’t have that, but the training is so long, you end up learning those skills. But, just like any other doctor, I feel it’s important to know how to talk to people, know how to communicate, show compassion, and really relate to your patients and families.

Why did you choose to be a neurosurgeon?
I learned that the brain, spinal cord, and nerves are very fragile and very sensitive to very small changes, and these things are so important to who we are and what we do every day. That balance between how fragile they are is what makes them beautiful. I respect the nervous system so much, and I consider it a huge privilege to operate on the central nervous system.

What’s your favorite part of the brain?
There is a structure called the hippocampus that is shaped like a seahorse, which is how its name originated. It has a very important role to play in memory, so in many ways it makes us who we are. I specialize in epilepsy. The hippocampus tends to be a frequent source of epilepsy and seizures, so it’s often the target of my surgeries. It’s very much a love-hate relationship: I love the beauty of it, but I hate what it can do to some of my patients.

What advice do you have for a young person who is thinking about becoming a neurosurgeon?
Be prepared for a long road. It’s one of the more challenging kinds of medicine to practice. We can make huge changes for a patient because of how delicate the brain is, but it takes a long time to learn how to do those things. Seek out good mentors. Neurosurgery requires that you have the right people guiding you through the steps to be successful. I promise you that if you commit yourself to this path, you will be satisfied with the rewards that come, and you’ll have a very gratifying career.

Why do you work at a children’s hospital?
Children bring me great joy. If you walk through the halls of a children’s hospital, a pediatric hospital is a much happier place. And this is despite the fact that these are very sick patients dealing with very serious diseases. Everyone is committed to helping these kids get healthy. I’m a very firm believer in paying attention to your instincts, and if something feels right, you should go with that feeling. I very much felt that way while I was on the pediatric neurosurgery service—that this was home—this was where I belonged.

What do you like best about Children’s Hospital Oakland?
I was born in Brooklyn. When I was a kid, I never wanted to leave. But as I got older, I realized there was more to the world than just Brooklyn. I knew, whatever I was going to do, that I was going to end up giving back to the community that raised me. Oakland is that kind of community; it reminds me very much of Brooklyn. I actually live in Oakland. It gives me such a feeling of satisfaction that I’m realizing my dream, that I’m able to plug back into the community that made me. To come in to work every day, to do the neurosurgery that I love to do, to serve the kind of families and patients that were me just a few years ago—it’s this beautiful full-circle story—and I really love the way it’s been unfolding the past few years. As I continue to grow as a neurosurgeon—because you never stop growing as a surgeon—I’m so happy to know I’m witnessing and participating in the growth of this fantastic hospital. Children’s Hospital Oakland has been so special to me, and I’m so fortunate that I’ve been able to realize my professional goals and dreams. I owe this hospital so much.
PUZZLE #14 ANSWER

PROBLEM: Use each of these numbers 1, 2, 3, 4, 5, 6 exactly ONCE to fill in the slots below:

ANSWER: 5 4

x 3

1 6 2

PUZZLE #15

PROBLEM: Using the hints below, correctly place the numbers 1 through 9 into the diagram.

1. 1 is in the bottom center.
2. 5 is two squares below 3.
3. 4 is directly left of 6.
4. 7 is directly right of 2.
5. 8 is diagonally opposite 3.
6. 6 is directly below 7.
7. 9 is two squares right of 4.

CONSENT TO PHOTOGRAPH, PUBLISH, USE, AND/OR SHARE INFORMATION

I hereby give my consent to UCSF Benioff Children’s Hospital Oakland and its organizations, including its fundraising foundation, (“Children’s”), to do any or all of the following with respect to me/my child:

Child’s name________________________________________________

☐ I agree that pictures may be used in and/or shared with Children’s publication HandPrints.

☐ The information to be released or used includes pictures or recordings of me/my child.

I understand:
• Pictures/Information published online before the expiration date may remain online after the expiration date but will not be used in a new way without my consent.
• I may cancel this consent up until a reasonable time before the picture/information is used, but I must do so in writing and submit to: UCSF Benioff Children’s Hospital Oakland, Marketing Communications, 747 52nd Street, Oakland, CA 94609.
• My cancellation will be effective when received by Children’s, except where use or sharing has already occurred in accordance with this consent.
• I will not receive any financial compensation for agreeing to this consent.
• I have a right to receive a copy of this consent.

Please make a copy of this form for your records.

This consent expires 3 years from today. Date ____________________

Parent/Guardian signature ____________________________________

Parent/Guardian printed name __________________________________

Relationship to child _________________________________________

Phone ____________________

Email ____________________

Address ____________________________________________________

City ____________________ State ______ Zip ________

Send your answer, and if it’s correct, you’ll win a prize. Send in a photo of you holding the solution, and you might be in the next issue!

Send your answer by April 29, 2016 to:
CHILDREN’S HOSPITAL OAKLAND COMMUNICATIONS DEPT.
747 52ND ST., OAKLAND, CA 94609

NAME ___________________________________________ AGE ______

ADDRESS __________________________________________________

CITY ______________________________________________________

STATE ________________________ ZIP __________________________
Children’s Scientist Contributes to Research Linking High Zinc Levels and Kidney Stones

David Killilea, PhD, a staff scientist at Children’s Hospital Oakland Research Institute (CHORI), co-authored a study into the causes of kidney stones. The study was conducted by the University of California, San Francisco (UCSF), in collaboration with the Buck Institute for Research on Aging in Marin County and CHORI. Published May 13 in the prestigious scientific journal PLOS ONE, the study revealed that high levels of zinc in the body may contribute to kidney stone formation.

Kidney stones are hard, often jagged masses of crystalized minerals that form in the kidney. Some kidney stones are very small and pass through the body without even being noticed. Larger stones may get stuck in the urinary tract, however, causing severe pain and blood in the urine.

According to the National Institutes of Health (NIH), kidney stones are one of the most common disorders of the urinary tract, affecting nearly 10 percent of the U.S. population. Each year in the U.S., people suffering with kidney stones make over a million visits to health care providers, including over 300,000 visits to emergency rooms due to the pain. While kidney stones are more common in adults, they also are becoming increasingly common in infants, children, and teenagers from all races and ethnicities.

“Nearly 90 percent of kidney stones are calcium-based, but we really don’t know what causes those stones to form,” says Dr. Killilea. “In the past, urologists recommended limiting the amount of calcium in the diet to help prevent the formation of kidney stones, but that did not turn out to be very useful. So we wanted to learn what other factors might contribute to the formation of kidney stones.”

The lead author of the study, Thomas Chi, MD, an assistant professor of medicine in the UCSF Department of Urology, approached Buck Institute researchers to participate in the study because of their experience in using fruit flies to model various diseases. Dr. Chi also approached Dr. Killilea to participate in the study because of his expertise in minerals.

The first step was to recognize what others had taken for granted.

“Years ago, researchers noticed that fruit flies produced little crystal ‘granules’ in their primitive kidney-like structures, but that finding had been mostly ignored,” Dr. Killilea explains. “Only recently have we found that these granules are similar in some ways to kidney stones in people. Fruit flies are easily managed in the laboratory, and we can manipulate their genetics and diet. We started screening the genes that might play a role in calcification, and we came across a gene that plays a role in metabolizing zinc. At the same time, I was analyzing the fly granules to see what was in them, and I found relatively high levels of zinc. The way these results came together was a nice surprise!”

Dr. Killilea stresses that the results of the study are still new, so it is too early to know about the impact of zinc levels on human kidney stone formation.

“This study’s results do not mean that zinc is bad for you—in fact, quite the opposite,” he says. “Zinc is an essential element in the human diet. It is well known that people with a zinc deficiency have immune systems that don’t function as well, and that might make kidney stone disease worse. It is only very high levels of zinc that might be a problem. With the fruit flies, large doses of zinc caused them to produce stones faster and to produce bigger stones. People should not avoid zinc, but we need to determine what the optimal levels of zinc might be, especially in people at risk for stone disease. That information might eventually give us tools to treat or even prevent kidney stone formation.”

According to Dr. Killilea, a number of other factors can also contribute to an increased risk for developing kidney stones, including stress, inflammation, lack of exercise, obesity, and dehydration. Children in particular may be sensitive to dietary influences, such as the consumption of sugary drinks. "An increased consumption of sugary drinks can contribute to both obesity and dehydration,” he notes. “Sugary drinks are loaded with ‘empty calories’ and also can be dehydrating.”

The NIH confirms that the prevalence of kidney stones has been rising in the U.S. over the past 30 years. Researchers observe that many kidney specialists have reported seeing more children with kidney stones in recent years. In fact, a study published in the November 2014 issue of The Journal of Urology® by researchers at Children’s Hospital of Philadelphia showed that the incidence of kidney stones in children has increased by approximately 6 to 10 percent over the past 25 years. Kidney stones that form during childhood have a similar composition to those that form in adulthood, the study noted.

“We really need more research on kidney
stone development in children,” Dr. Killilea says. “Growing children need an adequate amount of zinc to stay healthy, but there has not been a lot of work on figuring out what level of zinc is too high.”

Some general recommendations for preventing kidney stones—for both children and adults—include staying hydrated, limiting salt intake, and avoiding sugary or caffeinated beverages.

“This study was a very big project that would have been nearly impossible to complete without the collaboration among UCSF, CHORI, and the Buck Institute,” Dr. Killilea notes. “The affiliation of UCSF Benioff Children’s Hospital Oakland, CHORI, and UCSF in San Francisco has promoted more projects where we can collaborate on research and services to benefit children’s lives in the San Francisco Bay Area.”

**The Importance of Zinc**

Over one-third of the world’s population consumes too little zinc. Zinc is essential for normal immune function and fighting infection, and it plays key roles in the metabolism of carbohydrate, protein, and fat within cells. Studies suggest that each cell within the body has a small zinc reserve to support critical functions when dietary zinc intake is low. The lab headed by Children’s Senior Vice President of Research Janet King, PhD, has shown that small reductions in dietary zinc increase cellular DNA damage, which is repaired when the zinc supply increases.

The prevalence of zinc deficiency worldwide is unknown. Current estimates of zinc-associated mortality ranges from 97,330 in the Global Burden of Disease Study 2010 to 116,000 in the Lancet 2013 Maternal and Child Nutrition series. In all cases, these estimates represent an unacceptably high number of preventable childhood deaths attributable to zinc deficiency. Administering zinc supplements to at-risk children reduced diarrhea-related deaths by 27 percent and pneumonia-related deaths by 15 to 21 percent, suggesting that insufficient zinc was playing a role in those deaths.

The Bill and Melinda Gates Foundation has recently funded a technical consultative group led by Dr. King to design and implement zinc interventions focused on the first 1,000 days of a child’s life (from conception to 2 years of age). This group is called the International Zinc Nutrition Consultative Group (IZiNCG) and is composed of research scientists, academics, and implementers of nutrition programs. The primary goals are to identify how and when best to initiate preventive zinc interventions, and to test the efficacy of those interventions. The work will be done primarily in five target countries: India, Bangladesh, Ethiopia, Burkina Faso, and Nigeria. Additionally, CHORI labs will develop techniques for measuring zinc nutrition during the first 1,000 days of life and provide technical assistance with national surveys of zinc nutrition among lower- and middle-income countries. CHORI is taking the lead in building the evidence base for scaling up effective interventions through in-country health programs.

---

**Zinc Intake (mg/day)**

<table>
<thead>
<tr>
<th>Age group</th>
<th>Try to get at least this much...</th>
<th>...but not more than this much</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants 0 to 6 months</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Infants 7 to 12 months</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Children 1 to 3 years</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Children 4 to 8 years</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Children 9 to 13 years</td>
<td>8</td>
<td>23</td>
</tr>
<tr>
<td>Adolescents 14 to 18 years</td>
<td>11 (boys) 9 (girls)</td>
<td>34</td>
</tr>
<tr>
<td>Adults 19 years and older</td>
<td>11 (men) 8 (women)</td>
<td>40</td>
</tr>
</tbody>
</table>

Obtaining excessively high zinc levels is difficult to do with food alone. People should be careful of consuming high doses of zinc from supplements, which some believe prevents a cold.

---

**Are you getting too much or not enough zinc?**

---

**Are you a teenage male who drinks two or more cans of soda every day?**

If you are eligible and complete the study, you could receive $420.

The Cholesterol Research Center (CRC) is looking for teen boys ages 13 to 18 for an 8-week research study on the effects of replacing soda with reduced-fat milk on cardiovascular disease risk factors.

**To be eligible, participants must:**

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- Currently drink at least 24 oz. (2 cans) of soda or other sugary drinks per day
- Be able to drink milk

We will determine final eligibility at the clinic visit.

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- Education on healthy lifestyle practices

To see if you are eligible:

- Go to sams.studysites.net or CRCstudy.org
- Or call 866-513-1118. Refer to the “SAMS Study.”
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Walnut Creek Campus

**ACL Prevention**
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**Strength in the Young Athlete**
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Fueling Your Workout

Meals and snacks to eat 1 to 2 hours before working out

Adapted from AND's Sports Nutrition: A Practice Manual for Professionals, 5th Edition

Meals

1. Hot breakfast
   1/3 cup steel cut cooked oats
   1/2 cup milk
   2 tablespoons of raisins or dried fruit

2. Cold breakfast
   1 cup apple-cinnamon-flavored O's cereal
   1 cup milk
   1 medium sliced banana

3. Taco Salad
   2 oz. lean meat (roast beef, turkey, or chicken)
   1/2 cup shredded lettuce
   2 slices tomato
   2 slices avocado
   1 oz. baked tortilla chips

4. Stuffed sandwich
   1 whole grain pita
   2 tablespoons hummus
   1/2 cup shredded lettuce
   1/2 cup sliced cucumbers

5. Sandwich
   2 slices whole grain bread, toasted
   2 tablespoons cream cheese
   1 cup arugula or mixed baby greens
   4-6 medium strawberries, sliced

6. Pasta lunch
   1 cup cooked pasta
   1/2 cup tomato sauce
   1/2 cup sauteed vegetables (your choice)
   2 tablespoons grated Parmesan cheese

Snacks

1. 2 oz. pretzels
   6 oz. yogurt

2. 1 medium bagel, toasted
   1 tablespoon apple butter
   2 tablespoons cream cheese

3. 1 cup pudding
   1/2 cup each of blueberries, raspberries, and blackberries

4. 15 animal crackers dipped in
   1 tablespoon peanut butter
   1/2 cup fruit

5. 1 soft/chewy chocolate chip granola bar
   1/2 cup unsweetened applesauce

6. 8 oz. chocolate milk
   1 sliced apple or pear

7. 1 oz. pretzels dipped in
   1 tablespoon peanut butter
   1 cup grapes

8. 8 oz. yogurt
   1/2 sliced kiwi fruit
   1/2 cup granola

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From Volunteer to Doctor

Atoosa Firouzian’s experiences as a hospital volunteer at Children’s put her on path to a career in neonatology

Ever since she was a child growing up in Martinez and Lafayette, Atoosa Firouzian wanted to be a doctor. It wasn’t until she was a student at Acalanes High School, however, that she figured out which medical specialty she wanted to pursue.

“While I was in high school, I saw a program about neonatology on the Discovery Health Channel,” she recalls. “Once I realized there were doctors who cared just for newborns, I knew that was what I wanted to do.”

To gain personal exposure to the world of neonatology, the young high school student “shadowed” Charles (“Chip”) Scott, MD, a UCSF Benioff Children’s Hospital Oakland neonatologist who also practiced at John Muir Medical Center in Walnut Creek, near her home in Lafayette. With that experience under her belt, she started at the University of California, Berkeley, as an integrative biology major in hopes of making it into medical school. In her freshman year at UC Berkeley, she also signed up as a volunteer at Children’s Hospital.

“I started out volunteering in the playroom at Children’s,” she explains. “After achieving 100 hours of service in the playroom and on the hospital’s inpatient floors, I was eligible for training to work as a volunteer in the Neonatal Intensive Care Unit (NICU). I volunteered once a week in the NICU throughout college, and I continued volunteering after I graduated from Cal while I applied to medical school.”

The dedicated student and volunteer was accepted into medical school at the University of California, San Francisco, and received her MD degree four years later, becoming Dr. Firouzian. Then she started a three-year residency program at her old familiar stomping grounds—UCSF Benioff Children’s Hospital Oakland. She is now a second-year resident, looking forward to her third year of residency that will begin this summer.

“As residents, we are exposed to all areas of pediatrics,” says Dr. Firouzian. “During my first year, I rotated in the NICU at Children’s, in addition to other areas of the hospital. During my second year of residency, I had NICU rotations at both Children’s and Alta Bates Hospital in Berkeley.”

Dr. Firouzian notes that her earlier experience as a volunteer in the NICU at Children’s helped her feel more comfortable when starting as a resident physician there.

“I enjoyed coming back to Children’s NICU as a resident after having been a volunteer,” she says. “Being a volunteer had allowed me to observe the doctors and nurses at work. When I came back as a resident, I mentioned to some of the nurses that I had been a volunteer during college, and they responded, ‘Oh! That’s why I recognized you!’ As a resident, I have continued to use some of the comforting techniques I learned as a volunteer to help soothe babies after examining them.”

As a volunteer, Dr. Firouzian had been able to observe the infant patients over a longer period of time than the four-week rotations in the NICU as a resident. Each experience has offered advantages, she claims. Dr. Firouzian acknowledges that working in the NICU can be challenging and exhausting, but says it is ultimately rewarding.

“Being on the path of medical school and residency, you know it is going to be tough, but you really can’t grasp how all-absorbing it is until you experience it firsthand,” she says. “The hard work is totally worth it, though. The experiences I have had working with the wonderful attending physicians and nurses at Children’s have been fantastic. I love the pace of the NICU. Working there requires quick thinking and action, but you also get to watch the overall growth and development of the babies. My time in the NICU as a resident has confirmed and strengthened my desire to become a neonatologist.”

Dr. Firouzian will take the next step toward that goal by applying for a three-year fellowship in neonatology, which will begin after her three years of pediatric residency. “I’m not sure where I will go for my fellowship,” she admits. “And while I may have to leave the Bay Area for that, perhaps one day I will be fortunate enough to be back here at Children’s, where it all began.”
Joel was tiny when he was born after only a little more than 25 weeks’ gestation. He weighed only 1 pound, 4 ounces.

His premature birth (average human gestation is 40 weeks) and low birth weight put Joel at risk for serious health problems, including retinopathy of prematurity (ROP), which can cause blindness. ROP was the condition that made famed musician Stevie Wonder blind as an infant shortly after his premature birth in 1950.

Fortunately for Joel, the success in treating ROP has improved dramatically since the 1950s. Daniel Brinton, MD, an ophthalmologist at UCSF Benioff Children’s Hospital Oakland, was able to save Joel’s eyesight using laser surgery on his retinas. The retina is the inner layer at the back of the eye that receives light and turns it into visual messages that are sent to the brain.

“When a baby is born prematurely, the blood vessels in the retinas can grow abnormally,” Dr. Brinton explains. “Initially, the retinas have too few blood vessels since the baby was born before vascularization of the eyes could be completed. Exposure to oxygen in an incubator can continue to inhibit the growth of blood vessels in the premature infant’s eyes. Then, when the baby’s oxygen level is no longer supplemented, the eyes produce a chemical called vascular endothelial growth factor (VEGF), which causes blood vessels to grow into the center of the eye, rather than in the retina. These abnormal blood vessels are leaky, and they can produce scarring that causes the retina to pull away or detach from the wall of the eye and possibly result in blindness.”

Dr. Brinton notes that back in the 1950s, a baby as premature as Joel might not have survived.

“In the 1950s, there were lots of premature infants with ROP,” he says. “Eventually, doctors realized that exposure to high levels of oxygen could contribute to the problem, so they began reducing oxygen levels in incubators. We have learned a lot about how to determine the best level of oxygen for each baby and decrease the impact of oxygen as a risk factor for developing ROP.”

Joel’s mother, Julia McDonnell-Fine, recalls that the doctors from Children’s and Alta Bates, where he was born, monitored Joel carefully for signs of ROP. Currently, all infants weighing less than 3.3 pounds and with a gestational age of fewer than 31 weeks undergo eye exams for ROP.

“I watched Joel’s eye exams,” she says. “They dilate the pupils and then hold the eye open while the ophthalmologist examines the eye. Dr. Brinton examined Joel and determined he did have ROP. Dr. Brinton suggested waiting a bit before deciding whether Joel needed treatment, however, since ROP can sometimes resolve on its own. When Joel’s condition did not improve, Dr. Brinton recommended laser eye surgery. Joel was transferred from Alta Bates to Children’s, and he had surgery the next day.”

According to Dr. Brinton, the best way to prevent ROP from becoming worse is to turn off the production of VEGF to stop the growth of abnormal blood vessels.

“We used laser surgery on the peripheral area of the retina, where blood vessels haven’t developed,” he explains. “That stops production of VEGF and prevents new blood vessels from developing. A potential side effect is that laser surgery might affect the baby’s peripheral vision, but that is uncommon. The fact that Joel responded so well to the laser surgery makes it highly likely he will have very good vision.”

“It is really scary to have your baby born early and know that he could go blind,” says Julia. “But with the experience and quality of the doctors and staff at Children’s, there is also a lot of hope. I am originally from Philadelphia, and I lived in the Los Angeles area before moving to the Bay Area just before Joel was born. I think it is a miracle that we moved here.

“Dr. Brinton was great at explaining the various procedures, including the risks and benefits,” she adds. “He knew exactly what he was doing, and he answered all my questions. Plus, the staff at Children’s is phenomenal. They make it the best possible experience you can have under such scary circumstances.”
Spying that first sliver of white in baby’s gums is one of those first-year hallmarks parents look forward to. It’s also a signal to start baby on a lifetime of good oral hygiene habits.

“We recommend a first visit to the dentist as soon as the first tooth erupts,” says Joshua Connolly, DDS, MPH, Assistant Director of Hospital Pediatric Dentistry at UCSF Benioff Children’s Hospital San Francisco. “It’s usually not much of an exam”—a 6-month-old is not a very still patient—but it starts both parent and child on the right note.

“We like to get pregnant women in for exams to counsel them on the importance of good oral hygiene,” Dr. Connolly says. “Untreated gum disease in expectant mothers can lead to low birth weight or pre-term delivery.”

The prevention of dental caries—commonly known as cavities—is paramount. While fluoridated water has helped lower the incidence of cavities in children, nothing beats flossing and brushing—with fluoridized toothpaste.

As soon as a child has teeth, you need to use topical fluoride in the form of toothpaste. Wiping teeth afterward (for those too young to rinse) helps prevent excess exposure to the fluoride. But even with good habits, it seems some children are far more—or far less—prone to cavities. One factor is oral bacteria. Some bacteria are more acid producing. We may not be born with the “bad” bacteria, but it’s easily acquired from others: through a kiss, shared utensils or food, even a swipe on the lips with a licked thumb. When your mother said not to eat after others, she was on to something.

“You don’t want to be that kid who won’t share,” Dr. Connolly remarks, “but it really seems to make a difference.”

Something else that’s making a negative difference is carbohydrates. We’ve long considered sugar the enemy of healthy teeth. Now it’s become evident that our carb-heavy diet puts children at risk.

“Any sort of fermentable carbohydrate—crackers, noodles, corn, rice, fruit, juice, even milk—can feed oral bacteria to cause cavities,” Dr. Connolly says. Moreover, it’s not just the amount, it’s the duration of time on the teeth.

“We’re seeing the first uptick in dental caries in pediatrics since we started fluoridating water a half-century ago,” Connolly adds. “We’re seeing major cavities in between teeth, baby teeth,” underscoring the importance of parent-child teamwork in caring for those first teeth.

But it doesn’t stop in mid-childhood. Regular dental exams—another important element in good oral hygiene—also help spot issues with wisdom teeth, which can start to erupt as early as the early teen years.

Connolly recommends a set of panoramic X-rays at about age 12 or 13 to determine the status of the wisdom molars, and then a reassessment at about age 16.

“The sooner you’re able to plan for possible extraction, the better,” he says. While not every person requires extraction, wisdom teeth can shift the rest of the teeth, as well as be prone to causing gum infection and cavity development.

DON’T GIVE TEETH THE BRUSH-OFF
Parents expect to help babies and toddlers with brushing and flossing their teeth, but even older children may not have the manual dexterity to properly clean their teeth. Here are some tips for establishing good dental habits:

<table>
<thead>
<tr>
<th>Under age 3</th>
<th>Ages 3 to 6</th>
<th>Ages 7 to 8</th>
<th>Tweens and teens</th>
</tr>
</thead>
<tbody>
<tr>
<td>• When teeth first emerge, brush with a tiny amount (the size of a grain of rice) of fluoride toothpaste at least twice daily.</td>
<td>• Use a pea-sized amount of toothpaste to brush your child’s teeth, at least twice daily.</td>
<td>• Continue supervising your child’s brushing. Use disclosing tablets—they stain bacteria on the teeth, making them visible—to show your child the spots they’ve missed.</td>
<td>• Brush at least twice daily; floss at least once daily.</td>
</tr>
<tr>
<td>• Start flossing when baby has two teeth that touch.</td>
<td>• Teach children to spit, not swallow, the toothpaste.</td>
<td>• Use a floss holder to ease flossing.</td>
<td>• Avoid sugary or starchy snacks (e.g., chips, fries, noodle bowls).</td>
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<tr>
<td></td>
<td>• As children get older, teach them how to brush—and supervise them.</td>
<td></td>
<td>• Don’t smoke.</td>
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<td></td>
<td></td>
<td></td>
<td>• Wear a mouthguard for sports and similar activities.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• Avoid lip and tongue piercings.</td>
</tr>
</tbody>
</table>
| | | | • Visit the dentist regularly.
Severe Asthma Services at Children’s

Jeremiah Ogbolu was a sickly infant, diagnosed with asthma at the age of 6 months. He was first hospitalized for a severe asthma attack at UCSF Benioff Children’s Hospital Oakland for 17 days when he was only 9 months old. Now a 9-year-old fourth grader, he has been hospitalized six times for serious asthma attacks and pneumonia.

“We have been very grateful for the hospital care Jeremiah has received at Children’s,” says his mom, Carla Mills. “Because we live in Fairfield, it was especially great that I have been able to stay overnight with him at the hospital. Children’s Oakland is a wonderful hospital!”

Asthma is a chronic lung disease that inflames and narrows the airways, often resulting in recurring periods of wheezing, coughing, chest tightness, and shortness of breath. Asthma affects people of all ages, but it most often starts during childhood. According to the National Institutes of Health (NIH), more than 25 million people in the United States are known to have asthma. About 7 million of these people are children.

“Jeremiah’s asthma is mostly triggered by allergies,” his mom notes. “He has so many allergies—anything from animal dander to mold to outdoor pollens. His asthma attacks also can be triggered by exposure to tobacco smoke, strong odors such as perfumes, physical exertion, and respiratory infections, including sinusitis.”

Controlling Jeremiah’s asthma has entailed his receiving allergy shots every week from an allergy specialist near his family’s home in Fairfield and working with their local pediatrician. Since he was age 3, Jeremiah also has been treated regularly by Pediatric Pulmonology Division Chief Ngoc Ly, MD, MPH, at the San Francisco campus of UCSF Benioff Children’s Hospitals. As of December 1, Dr. Ly and several of her UCSF colleagues are now offering pulmonology services at UCSF Benioff Oakland and Walnut Creek campuses.

“A friend of mine recommended Dr. Ly to us,” Carla says. “Jeremiah has regular appointments every six weeks to two months with Dr. Ly. She also offers same-day appointments when Jeremiah has a serious asthma attack that requires urgent treatment.”

“Jeremiah’s case is unusual because he has had severe, persistent asthma since he was very young,” Dr. Ly says. “For a majority of kids who are diagnosed with asthma at such an early age, their symptoms may resolve by age 5. While they don’t actually ‘outgrow’ their asthma, they can have extended periods when they are asymptomatic. For kids like Jeremiah who have persistent asthma, however, it is important to closely manage their conditions with maintenance medications such as inhaled steroids to reduce inflammation, as well as ‘rescue’ bronchodilator inhalers such as Albuterol that relax the muscles in the airways and increase air flow to the lungs.”

The UCSF pediatric pulmonologists now treat hospitalized patients at Children’s Oakland in addition to providing outpatient care for patients at both the Oakland campus and at Children’s Walnut Creek location. “We offer sleep medicine services for children with sleep disturbances such as obstructive sleep apnea, insomnia, and narcolepsy, to name a few,” Dr. Ly explains. “Having uncontrolled asthma can result in disrupted sleep. Conversely, obstructive sleep apnea can lead to poorly controlled asthma.”

“Going to Dr. Ly’s office in San Francisco has been worth it, but it means a long drive, including a second bridge toll to go across the Bay Bridge in addition to the Benicia Bridge, and parking fees in San Francisco,” Carla says. “Being able to see Dr. Ly in Oakland should help a lot.”

SEVERE ASTHMA CLINIC EAST BAY LOCATIONS:

Outpatient Center
744 52nd St., Oakland
510-428-3305

Walnut Creek Campus
2401 Shadelands Dr.
Walnut Creek
510-428-3305
Depression in Children

Depression can and does occur in childhood (up to 5 percent before puberty), with rates increasing during adolescence (5 to 20 percent by age 18). Sadness, grief, anxiety, and anger are all part of our normal range of human emotions. It is only when sadness becomes so pervasive that it interferes with our regular daily functioning that we consider it depression.

Left untreated, depression can derail a youth from achieving important and time-sensitive academic, social, and emotional milestones, and it may leave a youth vulnerable to substance abuse. The longer depression remains untreated, the more likely a young person is to have chronic or recurrent depression throughout adulthood. If you are concerned about suicidal thinking or hopelessness, it is important to seek help immediately.

### DEPRESSION

<table>
<thead>
<tr>
<th>Definition</th>
<th>Reasons for teenage depression</th>
<th>Consequences of depression</th>
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</thead>
<tbody>
<tr>
<td>Depression is defined as two or more weeks of constantly sad or irritable mood, loss of interest and inability to experience pleasure in things that used to be fun, feelings of guilt or worthlessness, and hopelessness or helplessness.</td>
<td>• Teenagers become more susceptible to depression during adolescence due to: 1. Hormonal changes. 2. Significant brain development. 3. Changing sleep patterns. 4. Greater likelihood of substance use—in particular, alcohol and marijuana. 5. Increased psychosocial and academic pressures. 6. Developmentally appropriate seeking to understand and form their own identity.</td>
<td>• The most concerning aspect of depression is when hopelessness or helplessness leads to suicidal thinking and/or behavior. Suicidality ranges on a continuum from vague, infrequent feelings that life is not worth living to much more serious and sustained plans of actually committing suicide, with the intention to carry out these plans.</td>
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<tr>
<td>Low energy, physical restlessness or slowing, and changes in sleep and appetite can occur as well. Anxiety can often accompany depression, as can poor concentration, together with decline in academic performance.</td>
<td>• The incidence of depression is equal in boys and girls before puberty, but it doubles in girls after puberty. The reasons for this change are not clear, but hormonal changes and/or broader social acceptance of girls’ expressing their feelings (and thus perhaps underdiagnosis in boys) may be contributing factors. • The prevalence is relatively consistent across races and cultures, but it is higher among recent immigrants, displaced persons, and persons affected by chronic stress, poverty, and trauma. Lesbian, gay, bisexual, and transgender youth are also at increased risk. Only 25 to 33 percent of youth receive treatment, and cultural beliefs regarding stoicism and stigma of mental illness, both within families and across ethnicities, may perpetuate suffering amongst youth who do not receive help.</td>
<td>• Some youth also engage in self-injurious behavior, most commonly cutting. While cutting can be an additional risk factor for suicide, cutting is often different than an actual suicide attempt. Instead, it can be a physical way of either releasing emotional pain or inflicting physical pain to distract from intense emotions such as sadness or anger.</td>
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</tbody>
</table>

### WHAT PARENTS CAN DO

<table>
<thead>
<tr>
<th>Talk with your child</th>
<th>Consult with your child’s pediatrician</th>
<th>Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>• If you are concerned about your child’s mood, try to ask in a warm, casual, and open way about how they are doing. Hopefully this is in the context of a mutually respectful and trusting relationship you already have with your child.</td>
<td>• If you think your child may be depressed, consult your pediatrician to have an initial assessment done and to screen for certain medical conditions that may mimic depression, including anemia, thyroid disease, vitamin deficiencies, infections, or other disorders. • Mild to moderate depression often improves with education to teens and their families about feelings and what they can do to feel better. • Psychotherapy can be helpful for working through stressful life events, relationships, or past trauma; teaching coping techniques; and understanding the links among thoughts, mood, and behavior.</td>
<td>• If depression is moderate to severe, sometimes medication can be prescribed. Antidepressant medications are not addictive, nor do they change a person’s personality or make someone “happy all the time.” However, they can be a helpful adjunct to psychotherapy and other lifestyle changes, including diet, exercise, and strengthened family, social, and/or spiritual support. A trusted medical provider can provide guidance regarding the benefits and risks of starting an antidepressant and deciding together when to appropriately discontinue.</td>
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Volunteer Highlight: Michael Pham

Self-fulfilling prophecies of failure can be easy to buy into, especially for someone growing up with challenging circumstances.

Failure, however, was never an option for Michael Pham. Born with cerebral palsy, the 21-year-old, first-generation Vietnamese immigrant is now a junior at UC Berkeley working his way through a pre-med track. The wheelchair-using Vallejo resident has survived a lot of hardship in his young life, including six major surgeries. He’s one of seven children, and his family has stood by him all the way. Now, he says, “I just want to give back and make them proud.”

If you met Michael in person, you would know right away that this bright young man would be the pride of any parent. Michael has been a dedicated volunteer in the School Program at UCSF Benioff Children’s Hospital Oakland since his sophomore year in college. This on-site program offers a bridge between home and hospital and is certified by the Oakland Unified School District. During his volunteer hours, Michael assists teachers with tutoring students, playing games, and reading to patients in the hospital classroom or at bedside. He is also the lead coordinator for the hospital’s new volunteer-staffed Information Desks.

In addition to volunteering at UCSF Benioff Oakland, Michael also donates his time to patients at four other Bay Area hospitals. “Since my scholarships cover my academic expenses, this is my way of giving back to a community that has been so generous to me,” he shares.

A former patient at Children’s, Michael clearly remembers the exceptional care he received at the hospital when he was a young child. These positive memories have fueled his dream to become a doctor and help others. “I’m determined to prove people wrong and show them that I can do anything in life,” says Michael. “Disabled people are not useless.”

This is a message that he shares regularly with the young patients he meets during his volunteer stints—like the five-year-old boy who told Michael last fall that he wanted to be a NASA astronaut when he grows up but can’t because he is in a wheelchair. "You can make great changes in the world no matter what condition you have,” he stated. Hearing those convincing words from Michael not only brought a big smile to the little boy’s face, but to those of his parents as well. “My philosophy is that volunteering is not about the hours; it’s about having fun, and at the end of the day, it feels good to be able to give back.”

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Gifts from the Heart

Barbara Hussey Riggins was one of the first Red Cross workers to arrive in Korea after the outbreak of hostilities in 1950. With a bachelor’s degree in education from UC Berkeley, she wasn’t a medical professional but wanted to do what she could to help. She served as a “recreation worker,” writing letters for wounded soldiers, reading to them, and lending a friendly ear.

Her efforts were so exemplary that the Red Cross used her story to inspire millions of dollars in donations. On March 1, 1953, she sat beside President Dwight Eisenhower during a White House radio address to kick off that year’s Red Cross fundraising campaign. After the president introduced her, they aired a radio play about her experiences in Korea, with actress Shirley Booth playing the role of Barbara.

When Barbara passed away in September 2014 at age 93, she made generous donations of her own by leaving bequests to various charities. “She left nearly all of her money to charity, focusing on the three things she cared about most: international causes, her Catholic faith, and children,” says Maryknoll missionary Father Bob Carleton, her cousin and the trustee of her estate.

A lifelong resident of the East Bay, Barbara directed her children-focused bequest to UCSF Benioff Children’s Hospital Oakland.

“Our doors opened more than 100 years ago, thanks to the foresight and generosity of the women who were our founders,” says Bertram Lubin, MD, President of UCSF Benioff Children’s Hospital Oakland. “We are incredibly grateful for gifts like Mrs. Riggins’s—which make an enormous difference in our ability to continue serving all children in our community.”

Barbara worked as a librarian and teacher in the Antioch school district, and she created a scholarship to help graduates attend college. She loved to travel and visited Africa, Asia, Europe, and Latin America, for a time teaching in an American school in North Africa. Her deep faith was a source of strength throughout her life.

For more information about planned giving opportunities at UCSF Benioff Children’s Hospital Oakland, please visit give.ucsfbenioffchildren.org.

Dabbling in Philanthropy

Meet Arjun Amin, an entrepreneurial 8-year-old who has entered the world of philanthropy with the establishment of his own nonprofit called Birddayart. The Montclair Elementary student creates original greeting cards, which he sells for $3 each, and donates the proceeds to UCSF Benioff Children’s Hospital Oakland and other charitable institutions.

We first got to know Arjun shortly before his fourth birthday after he was injured in a car accident. Arjun’s favorite thing about his subsequent 10-day stay at UCSF Benioff Oakland was the playroom, where he would spend hours playing with the toys.

After he fully recovered from his accident, Arjun decided he wanted to give back. His idea was to take his creative energy and “make cards and sell them so that the kids at the hospital could have MORE TOYS!”

Eighteen months down the line, his business has slowly blossomed into a mission to raise funds for various philanthropic causes, beginning with our hospital. Arjun hopes to keep growing Birddayart so he can “help fund education for children who can’t go to school and so so so many other things!”

To learn more about Birddayart, go to www.birddayart.com.

Birddayart founder Arjun Amin.
Naming Ceremony Honors McKesson

On January 20, Rowan Branch members and UCSF Benioff Children’s Hospital Oakland leadership and staff honored longtime corporate partner McKesson during a special naming ceremony held at our Walnut Creek Campus. In recognition of their generosity over the last decade, a waiting room at the clinic is now formally named for the company.

Christine Lopez, President of the McKesson Foundation and Vice President of Corporate Citizenship, was deeply honored by this tribute. “McKesson shares Rowan's commitment to better health for the children in our communities, and we are proud to support the important work of UCSF Benioff Children’s Hospital Oakland.”

For over 60 years, the Rowan Branch auxiliary has supported UCSF Benioff Oakland through fundraising and community advocacy. They raise funds primarily through two annual fundraising events, including the upcoming Rowan Branch Spring Shopping Spree at the Round Hill Country Club in Alamo on May 2, 2016. For event information, go to www.rowanbranch.org.

Bay Area Deejays Hit the Airwaves for Local Kids

Amazing stories of courage and hope filled the airwaves at our recent radiothon events for UCSF Benioff Children’s Hospital Oakland. Last December, on-air personalities from La Raza 93.3 shared the mic with some of the Bay Area’s most inspiring celebrities—the patients, families, and staff here at UCSF Benioff Oakland—during the seventh annual Para Nuestros Niños Radiothon. In a span of 48 hours, Bay Area listeners came together and raised $285,256 for our young patients.

On March 9, radio listeners stepped up and pledged generously during the Caring for Kids Radiothon hosted by 107.7 The Bone and 104.5 KFOG. Broadcast live from the hospital cafeteria, the day-long event included more incredible stories from brave children and their families about the impact that our clinicians and staff have had on their lives. Thank you to all who tuned in, listened online, or stopped by in person.

UCSF Benioff Children’s Hospital Oakland is a member of the Children’s Miracle Network Hospitals, a national alliance of premier hospitals for children. CMNH, a nonprofit organization, is dedicated to saving and improving the lives of children by raising funds for children’s hospitals across North America. All funds raised stay in the area to help meet the health care needs of the tens of thousands of local children served by UCSF Benioff Oakland every year.

The La Raza team raised $285,256 for Bay Area kids during the 7th annual Radiothón para Nuestros Niños.

The Bone deejays Chasta and Lamont visit the hospital’s teen lounge in advance of the Caring for Kids Radiothon.

Missed the radiothons but want to give back? Please visit our website at give.ucsfbenioffchildrens.org.
COME JOIN IN ON THE FUN!
To learn more about these upcoming fundraisers, go to give.ucsfbenioffchildrens.org

7th Annual
Children’s Health Guild Fundraiser

A Starry Night
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Benefitting
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and the George Mark Children’s House

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www.childrenshealthguild.org

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