

Natalie's Wish

*Star light, star bright,
First star I see tonight
I wish I may, I wish I might
Have the wish, I wish tonight.*

FOR FRIENDS OF NATALIE STACK AND SUPPORTERS OF THE CYSTINOSIS RESEARCH FOUNDATION ★ FEBRUARY 2008



A Note From **Natalie**

This year, I am a junior at Sage Hill School. It has been a challenging year so far. I played on the JV tennis team during the fall and have been substituting for the JV basketball team this semester. I started the college process recently. I am most interested in colleges in California, preferably in the Los Angeles area. I am involved in many clubs at school including the yearbook committee, the French Club, Families Forward and the Spirit Club.

Over the summer my family and I traveled to South Africa, where we went on safaris and took time to learn more about the people of Africa. We visited several children's orphanages. It was a moving experience that made me realize how fortunate I am to have such a wonderful life. Our family was so moved that we are going back to Africa this fall to set up a new orphanage house, which we are going to support.

A year or so ago, I received an email from a girl named Heather Wegerif who has cystinosis and is my age. She lives in Alberta, Canada. We have been emailing each other for a while now. We have learned a lot about each other and have many of the same interests. We didn't know if we would ever meet, but Heather and her family visited Southern California last year and we were able to meet in person. We all met for dinner and had a great time. We have continued to email and hope that we will meet again soon.

My life with cystinosis has been going very well because I am still on the slow-release medication as part of Dr. Dohil's study. I have been on it over a year and my favorite part is that I can sleep through the night! My life is more normal now since I take the medication every 12 hours instead of every six hours. Taking the slow-release has made a huge difference in my life. It is my wish and hope that everyone with cystinosis will soon be on it and experience how much better life can be. It has made my life easier and I am positive it will make other lives easier too.

I want to thank all of you and the doctors for working to make our lives better and to find a cure for cystinosis.

Love, Natalie



Heather Wegerif with Natalie and Jeff Stack

Dear Friends and Family

What an amazing year it has been! In 2003, when we established the Cystinosis Research Foundation (CRF) our goal was to aggressively pursue new and better treatments for cystinosis and ultimately to find a cure for the disease. We specifically sought to improve the quality of life for all those who suffer from cystinosis. This past year, we have made great strides and have ensured that a better quality of life for all of our children will be a reality in the very near future.

Only five short years ago, cystinosis research was minimally and sporadically funded. Clinical research and multi-year research studies were rare, and it was difficult to attract new researchers. Today, because of your commitment, CRF is the largest non-profit fund provider of cystinosis research in the world.

In 2007 alone, CRF raised more than \$2.5 million. Overall, the Foundation has raised more than \$6.5 million and has committed and funded \$5.1 million for cystinosis research. CRF is now funding 17 research studies and five research fellows. Our researchers are working in five countries around the world and are collaborating to ensure the sharing of ideas and energy.

We have made great strides and have ensured that a better quality of life for all of our children will be a reality in the very near future.

We have consistently funded clinical studies that were designed to find better treatments, specifically to develop a slow-release form of the current medication. Since 2003, the Cystinosis Research Foundation has supported Dr. Ranjan Dohil's clinical studies aimed at developing and testing a slow-release form of the current medication. Remarkably in just five short years and as a result of CRF funding, Dr. Dohil developed EC Cysteamine, a slow-release medication for cystinosis. The current medication must be taken every six hours but the newly developed slow-release medication can be taken every 12 hours with excellent results. As a result

continued on page two



Dear Friends and Family *continued from front page*

of taking the medication less frequently, compliance improves, side effects are reduced and most importantly, the children are able to sleep through the night!

We are ecstatic to report that Raptor Pharmaceuticals Corp.

announced that its clinical development division, Benu Pharmaceuticals Inc. has acquired the worldwide license for EC Cysteamine, the slow-release medication. Benu plans to expand the clinical study of its final proprietary formulation in collaboration with Dr. Dohil and Dr. Schneider in 2008 and to apply to the FDA for market approval in 2009. EC Cysteamine will also be targeted for clinical studies as a treatment for other metabolic and neurodegenerative diseases including Huntington's disease, Batten disease and Parkinson's disease. On page eight is an interview with Ted Daley, President of Benu Pharmaceuticals Inc., who answers questions about EC Cysteamine and Benu's future plans to help the cystinosis community. Raptor and Benu's acquisition of the EC Cysteamine patent is the most important and significant news the cystinosis community has had in decades.

Every day children and young adults with cystinosis take medication every six hours of every day including twice each night. These children have never had a full night's sleep but now, because of EC Cysteamine, a full night's sleep will be a reality. Many parents have expressed that having a slow-release medication is almost as good as a cure. We are grateful to Dr. Dohil and Dr. Schneider for their dedication to cystinosis research. We are excited to know that Raptor Pharmaceuticals Corp. has plans to bring the slow-release to market and we look forward to working with them to ensure we move forward as quickly as possible.

This past year, CRF has grown as the cystinosis community becomes more

involved, supporting each other in our mutual effort to cure cystinosis. In 2007, our success was due to the outreaching of love and support from other cystinosis families around the country. We have formed partnerships with the Grier family of Charlotte, North Carolina and the Partington family of Sacramento, California. Their friends and families have embraced the cystinosis cause and are actively and enthusiastically raising funds to support cystinosis research through CRF.

We are pleased to report that the first CRF International Cystinosis Research Symposium for researchers and scientists will be held on April 3 and 4, 2008 at the prestigious Arnold and Mabel Beckman Center of the National Academies of Sciences and Engineering near UC Irvine. The symposium is generously and partially underwritten by Sigma-Tau Pharmaceuticals, Inc. The agenda includes over 25 presentations from CRF-sponsored researchers.

When CRF was established, one of our goals was to improve the quality of life for children with cystinosis. Finding more effective treatments was the key to that goal. It was impossible then to imagine daily life without the onerous six-hour medicine schedule. Your prayers, financial support and commitment have brought us closer than ever to extraordinary changes in the daily lives of children with cystinosis.

We thank you for your commitment. We are grateful to those who are dedicated to making our upcoming Natalie's Wish event a success. We are especially thankful for the tireless efforts of Zoe Solsby and Marylyn Milburn whose daily commitment and energy make CRF so successful.

We hope you will join us for this year's event on Friday, May 30 at the Balboa Bay Club. The evening promises to be emotional and inspirational with Irish tenor Ronan Tynan sharing his story of triumph over adversity—it's a story you will not want to miss.

Nancy and Jeff Stack

**CYSTINOSIS
RESEARCH
FOUNDATION**

FIRST INTERNATIONAL

Cystinosis Research Symposium



THURSDAY, APRIL 3 AND FRIDAY, APRIL 4, 2008

The Cystinosis Research Foundation will sponsor the first International Cystinosis Research Symposium for researchers and scientists at the Arnold and Mabel Beckman Center of the National Academies of Sciences and Engineering on April 3 and 4, 2008. Investigators from the United States, France, Germany, England, Italy, Mexico and the Netherlands will attend and many will present their current research on cystinosis. Almost all the research that will be presented has received significant financial support from CRF.

A major goal of the symposium is to promote collaborations between investigators who are studying cystinosis to hasten the progress in understanding and treating this disease. It is anticipated that a summary of the symposium will be published in the journal *Pediatric Nephrology*.

Symposium Co-chairs:

Jerry Schneider, MD

Research Professor of Pediatrics
Dean for Academic Affairs Emeritus,
School of Medicine, University of California, San Diego

Ranjan Dohil, MD

Division of Gastroenterology, Hepatology & Nutrition
Department of Pediatrics
School of Medicine, University of California, San Diego

Keynote speakers:

Jerry Schneider, MD

Michel Broyer, MD

Former Chief of Pediatric Nephrology at
Hôpital Necker-Enfants Malades, Paris, France

Jess Thoene, MD

Professor of Pediatrics, University of Michigan

Douglas Wallace, PhD

Professor of Pediatrics and Biological Chemistry,
University of California, Irvine

Partially underwritten by



SAVE THE DATE ★ FRIDAY, MAY 30, 2008

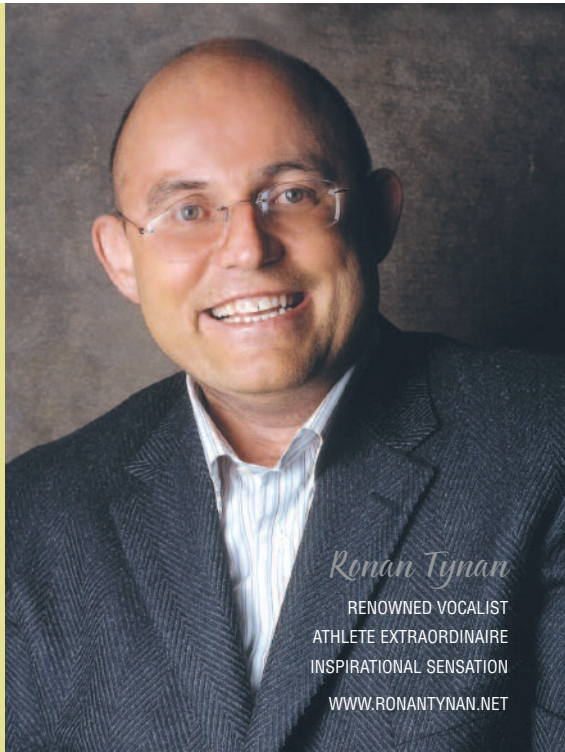


SEVENTH ANNUAL
NATALIE'S WISH
Olympian Efforts

From Impossible Dreams to Remarkable Realities

EVERY FOUR YEARS, THE
WORLD'S LEADING ATHLETES
GATHER TO DETERMINE WHO
AMONGST THEM IS THE
STRONGEST, FASTEST AND
OTHERWISE MOST TALENTED.

NOT EVERY ATHLETE WILL WIN,
BUT THEIR YEARS OF PHYSICAL
AND MENTAL TRAINING, PERSONAL
SACRIFICES AND WILLINGNESS
TO PUSH THEIR BODIES BEYOND
WHAT MOST OF US ARE WILLING
TO ENDURE EARNS EACH OF THEM
THE RIGHT TO BE CALLED
AN OLYMPIAN.



Ronan Tynan
RENOWNED VOCALIST
ATHLETE EXTRAORDINAIRE
INSPIRATIONAL SENSATION
WWW.ROANTYNAN.NET

We have told you about a lot of incredible people, but we have never profiled anyone with the accomplishments of the man you are about to meet. BARBARA WALTERS ABC's 20/20

Unfortunately, the children and young adults who suffer from cystinosis will probably never know the thrill of competing in, let alone winning, a prestigious international game. But their efforts – those of simply living with a dreaded rare disease that saps their energy, fills them with constant pain and prematurely drains the life from them – are, perhaps, even more heroic. Indeed, the daily lives of these brave, young warriors requires what most would call – **Olympian Efforts**.

We invite you to join us on Friday, May 30, 2008 for the Seventh Annual Natalie's Wish event, **Olympian Efforts**, as we celebrate the lives of the children and young adults who suffer from cystinosis.

This year's event will feature international singing sensation Ronan Tynan, who has himself faced numerous challenges throughout his highly accomplished and well-documented life. Much like the cystinosis patients whose lives we will celebrate and support that night, Dr. Tynan's story is one of enormous passion and extraordinary inspiration.

For information call Allison Cook at
949-223-7610 or visit www.natalieswish.org



NATALIE STACK



Marion and
Lula Halfacre

Over \$36,000 Raised
in Memory of Marion Halfacre

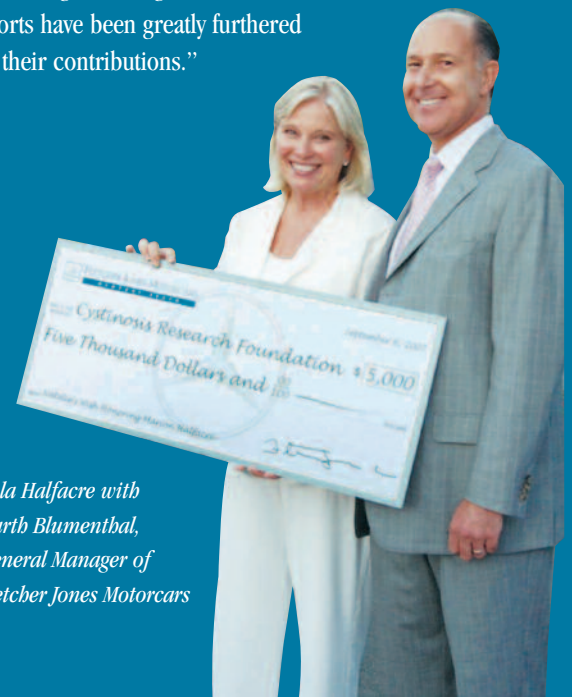
CRF accepts \$5,000 gift at the Jones Cup Golf Tournament in memory of Marion Halfacre of Traditional Jewelers.

Lula and Marion Halfacre, owners of Traditional Jewelers in Newport Beach, have long been major contributors to the Foundation's research efforts. In 2006, CRF was selected as charity of choice at the annual Diamond and Jewelry Extravaganza raising \$35,000. Sadly, Marion passed away unexpectedly due to a heart condition on June 9, 2007. He was well known for his generous spirit and community service.

The 2007 Jones Cup Golf Tournament was dedicated to Marion to honor his philanthropic legacy. Event sponsor, Fletcher Jones Motorcars, commemorated this dedication with a \$5,000 donation to Natalie's Wish and CRF. The check was presented to Lula Halfacre at the event's emotionally charged awards ceremony. Twenty players participated in the tournament, which was held at Big Canyon Country Club in Newport Beach, California on September 6.

Following Marion's passing, and at the request of his family, CRF gratefully accepted more than \$31,000 in his honor.

"Marion was a respected businessman and philanthropist in the community, but moreover was a loyal friend," stated Nancy Stack. "We will always be grateful to Marion, Lula and their family for identifying CRF as the benefactor for their generous gifts. Our research efforts have been greatly furthered by their contributions."



Lula Halfacre with
Garib Blumenthal,
General Manager of
Fletcher Jones Motorcars



L-R: Jill Scriber, and daughter Jenny Madden, Ginni and Kelsey Valley, Nancy and Natalie Stack, Suzanne and Shelby Searles, Caroline and Kathy Kelter

Tiki Boat REUNION

Once again, the Harbor Day School, Class of 2005 held a TIKI-themed fundraiser for their friend and fellow graduate, Natalie Stack. On Sunday, June 10, 2007, Kelsey Valley, Caroline Kelter, Jenny Madden and Shelby Searles organized a successful Third Annual Fundraiser to raise awareness and money to help find a cure for cystinosis. They held a pancake breakfast at a private home overlooking the ocean in Corona del Mar. Many of their classmates were in attendance and a fabulous breakfast was served. The graduates are in different high schools so it is always fun when this group gets together.

Natalie's friends understand the importance of the research CRF is funding, and they have heard about the progress that has been made from Natalie herself. They were thrilled to hear about the new slow-release meds and happy to know those medications make a huge difference in her life. Most attendees have known Natalie since kindergarten and are well aware of her daily routines.

The day's donations of \$8,500 went to the Cystinosis Research Foundation, which was founded by Natalie's parents. In the past three years, over \$25,000 has been raised as a result of this event.

It was a great day, where good friends with compassionate hearts made a difference.



TOGETHER WE ARE MAKING A DIFFERENCE

THANKS TO BOMA

(Building Owners and Managers Association, Orange County) for its continuing support of the Cystinosis Research Foundation. The 2007 BOMA Golf Tournament raised \$18,000 to support cystinosis research.

BOMA's contributions, along with those of other caring supporters, are giving hope for the first time to a very small group of children and young adults, and their families throughout the world who suffer from cystinosis.

SPECIAL THANKS TO:

- Robin Jochims**, Executive Director, BOMA
TOURNAMENT CO-CHAIRS
Mike Raring, AAA Electric & Communications
Jon Schneider, Specialty Apparel
AUCTION DONORS
Dorothy Bisaha, SERVPRO of Tustin
Chris Byrne, Structural Materials Co.
Steve Carfagno, Roger Dunn Golf Shops
Vince Ciavarella, SARES•REGIS Group
Tami Dials, Harrah's Laughlin
Bryan Farndale, Terra Pacific Landscape
Janet Hagstrom, Riviera Hotel & Casino
Cliff Hampton, Wilson & Hampton Painting
Michael Hessling, Hooters Casino Hotel
Jeff Koscher, Advanced Restoration Specialists
Connie Montgomery, Rowley Portraiture
Marius Opre, South Shore Building Services
Betty Pickett, Universal Protection Services/AAA Electrical
Jim Proehl, PM Realty Group
Eric Quade, Racquet Club of Irvine
John Reynolds, HKA Elevator Consulting, Inc.
Bradford Rowley, Bradford Renaissance Portraits
Geoffrey Stack, SARES•REGIS Group
- Join us on May 13 for the 2008 BOMA tournament.
www.boma-oc.org



949.223.7610
www.natalieswish.org



CYSTINOSIS RESEARCH FOUNDATION
NATALIE'S WISH

SEARCHING FOR A CURE

The Cystinosis Research Foundation is registered on GoodSearch.com, a search engine that donates about a penny per search, to the charities its users designate. Every time you use GoodSearch.com (instead of your current search engine, such as Google) money goes to CRF! The site is powered by Yahoo, so you'll get the same quality search results that you're used to.

To find out more visit: www.goodsearch.com

Be sure to type in Cystinosis Research Foundation in the "my charity" box. It takes less than 20 seconds to set up! And remember to tell your friends. If 1,000 people search twice a day for a year, CRF could earn \$7,300!





My Family's Story - Update

TERESA, KEVIN, PATRICK
AND JENNA PARTINGTON

Dear Supporters of CRF and Jenna and Patrick's Foundation of Hope:

We have been asked to give an update on Patrick and Jenna and how our family is doing these days. Honestly, we had a rough stretch prior to the holidays, logging 47 continuous days of vomiting from one or both of our children. We figure they both got a typical stomach flu that spiraled into cystinosis-related sickness including fatigue, weakness, pale skin, dry cracked lips and so much vomiting it's hard to describe. As the children get older (they are three, now) and as their personalities develop, it becomes more difficult to see them digress when they get really sick. Jenna, in particular is so energetic and happy...sickness literally "wilts" her like a flower. Patrick became very dehydrated and the potential for hospital admission loomed for a few days. We are thrilled to report that we made it through December with only blood tests and a handful of doctor visits. **No hospital. Thank God.**

We realize there are many families dealing with cystinosis who cannot say the same. We came into contact with a couple from Tacoma, Washington this winter who recently learned their twins, now 16 months old, both have cystinosis. Their daughters spent most of December in the hospital as doctors tried to regulate their medications and get them started on Cystagon™. I thought of them every day as we dealt with our twins, and I remembered our saddest days soon after diagnosis. To have or to love children who are terminally ill brings unimaginable heartache. Faith in God and hope for the future is truly what brings us peace and the ability to push through the hard times.

My husband Kevin recently commented that we are saying, "Thank you," much more these days than we are saying, "Your welcome." We are at the mercy of brilliant doctors and energetic and determined individuals who are working to make the world of cystinosis an easier world to live in. Once more we say, "Thank you," as we head into January and 2008 with two kids who are doing pretty darn well, all things considered. We continue to hope that Patrick and Jenna will be strong and grateful for all they have. While we are often plagued by heartache, Kevin and I feel truly blessed.

We hope 2008 is the best year yet for every child and family dealing with cystinosis... filled with healthy days and wondrous discoveries for treating this devastating disease.

With love, Teresa



Patrick and Jenna Partington



Kevin Partington with Denver Bronco
John Lynch at the "Athletes First"
cocktail reception and dinner.

Winning Bid Takes CRF Partner to Superbowl XLII



Expect the auction items at this year's Natalie's Wish event to be spectacular! In 2007, Kevin Partington (Jenna & Patrick's Foundation for Hope) was the highest bidder on an extravagant Superbowl package that included airfare, lodging, VIP parties and a football signed by NFL legend, Jim Kelly. The package raised \$12,500 for cystinosis research.

Kevin and his guest joined 73,000 football fans for the most watched Superbowl ever on Sunday, February 3, 2008 when the New England Patriots took on the New York Giants. The weekend included a four-night stay in NFL-sponsored lodging and tickets to the hottest pre-game events on Friday and Saturday nights. A Saturday highlight was the private *Athlete's First* cocktail reception and dinner where Kevin rubbed elbows with celebrated NFL players and staff.

Two VIP seats at Superbowl XLII were the main event that weekend – and Kevin watched the NFL champions crowned live. The Giants were the victors in this year's game, defeating the Patriots "17 to 14." Kevin was on the front line for all the action!

Save the date for the 2008 Natalie's Wish on Friday, May 30. The auction items will once again be fantastic.

2007 Walk of Hope Raises \$93,000

The 2nd Annual Family Fun Walk for Hope on October 13, 2007 was a terrific success with 250 adults and children participating in the 3K walk. The event, organized by the Partingtons, included live music, food and refreshments as well as a bounce house and face painting for kids. Thanks to everyone who walked for this important cause.



Joel's Story

By Dawn Strickland, Joel's Mom

Our son, Joel, who turned three in October, was diagnosed with cystinosis in March, 2007. It was only after a long and painful 2 1/2 years that we discovered the truth we feared. I can honestly say that I knew from day one that things were not quite right with Joel. My husband and I already had a 22-month-old son, so we thought we knew how our baby should eat, sleep and behave.



We were very busy starting a retail baby business. My husband and the boys were frequently at the store. We quickly became "experts," giving advice about nursing, baby care, furniture...just about everything.

Many months passed and we continued to notice quirks with Joel. Our pediatrician repeatedly told me things were fine. I wanted to believe that everything was alright. I didn't really want to hear anything negative.

When Joel was 4 months old, he was not eating well. His pediatrician discovered that his tongue was closely attached to the base of his mouth and suggested that it be "clipped" by an ENT. After the surgery we were hopeful that Joel would begin to eat and drink a full bottle like other 4-month-olds.

nothing. Not pleased, I changed offices. The new doctor immediately ran tests that came back negative. She suggested that we have Joel admitted to Sacred Heart Children's Hospital.

Joel spent a week in the hospital while doctors tested for Cystic Fibrosis, Cerebral Palsy and a myriad of other illnesses. They discovered that he had low potassium and sodium but all else was inconclusive. We asked to be transferred to a larger hospital and we were off to University of Alabama at Birmingham (UAB).

We went through two doctors and more tests. Although there was no diagnosis, we were assured that we were well on our way to progress. Joel was given a feeding tube

When I casually asked Joel's nurse about cystinosis she just laughed and said, "It is much too rare, and Joel doesn't present all of the 'normal' symptoms." After six months there was little progress at UAB. We proceeded to Vanderbilt University's nephrology department in Nashville. Exhausted, we sat down with yet another new physician who instantly asked, "Have you ever heard of cystinosis?" My heart sank. He immediately sent Joel to a pediatric ophthalmologist to see if crystals had formed in his eyes. They had, but the doctor told us not to worry. We waited three weeks for the results of a test to determine Joel's cystine level. Just as we had feared for so long, Joel's cystine level was abnormally high.

At that point, we struggled to be hopeful and optimistic. It is nearly a year since Joel's diagnosis and today we truly are more hopeful and optimistic. We understand the Cystinosis Research Foundation's efforts, and Natalie's site continues to be our main source of information and hope.

When we learned that the new time-release medication would soon be available to Joel, we were more hopeful than we'd been in many months. Although our peace comes from Christ, we truly believe that God has placed the Stack family, the researchers and doctors, and the donors in our lives to help Joel in the fight for a cure and a better way of life.

No words could adequately express how grateful we are that Joel really does have a lot to be hopeful for. We know there is an impressive team behind all of the research and that one day there will be a cure.

Although our peace comes from Christ, we truly believe that God has placed the Stack family, the researchers and doctors, and the donors in our lives to help Joel in the fight for a cure and a better way of life.

Nothing changed. In fact, everything worsened. Joel's growth was at a standstill. He rarely finished a bottle even when he was thirsty. He cried incessantly. By 11 months, he started vomiting. But his pediatrician continued to insist that Joel looked fine, although a little on the small side.

Again things worsened. By 17 months, Joel was vomiting every morning. He only wanted water and salty or crunchy foods. He was still not walking, cried a lot, and had very low muscle tone.

At 18 months, I asked to see another doctor. The nurse practitioner agreed that something was wrong. She ran various tests and found

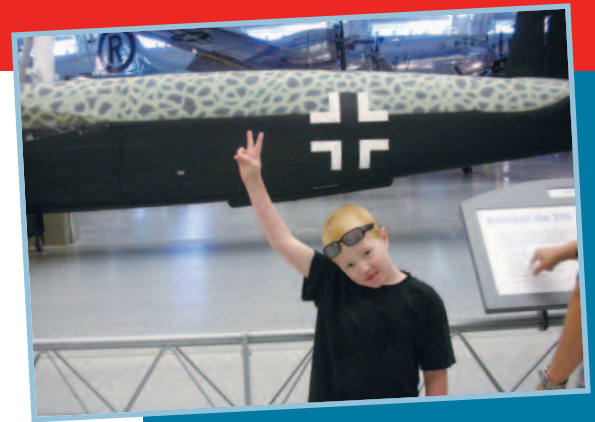
to better administer his medication and nutrition. For the next six months, he improved slightly but my husband and I were convinced that we still had not gotten to the root of the problem.

The first time we heard of cystinosis was when my husband told another contractor about Joel's symptoms. "It sure sounds like the same thing one of our friend's kids has," he said, "I can't remember the name but I'll get back to you." He did and I immediately hit the internet. The first site I visited was Natalie's. I wept, and as I read through the site, my body ached. I prayed that my baby did not have this terrible disease.

Bailey's Story

By Jessica DeDio, Bailey's Mom

Bailey was diagnosed with cystinosis when he was 18 months old. I knew something was wrong six exhausting and emotional months earlier, but doctors continued to tell me that my son was fine and that I was worrying too much. I will never forget the feelings of fear, loneliness and confusion when the diagnosis finally came: Fanconi Syndrome and cystinosis.



A happy 10-year-old Bailey

I was told that we were lucky because 10 years earlier, children with cystinosis would die by age 10. The doctor explained that something called cystine would build up in Bailey's body and eventually shut down all his vital organs. The doctor said that we could slow the process with a medication called Cystagon™ and that Bailey would need to take many other medications just to keep his body functioning.

We went home that day and did everything the doctors told us to do. In the beginning, I had to sit on Bailey's chest, hold both arms down with my legs and put the syringe of medicine in his mouth – then hold his mouth shut until he swallowed. There were times when he would spit the medication out or throw up, causing us to start all over again.

Bailey is now 10 years old and by looking at him you would never know that he is sick. People are shocked when they see the dozen of meds in his backpack. He takes meds four times a day – at 7 am, 1 pm, 7 pm and 1 am – without complaint. Bailey was recently diagnosed with high blood pressure, so he has to take a blood pressure pill called Lotensin daily, plus he is on a low-sodium diet. Each year we fly to Bethesda, Maryland for the eye drops he needs to rid his eyes of the cystine build-up, which causes eye pain and photosensitivity. To be effective, he must take the drops 10 –12 times per day.

Bailey has a lot of spunk, and he can be very funny and ornery. If he wants something badly, he doesn't give up until he gets it, even if it means getting into trouble. There are many things he wants to do in life including becoming a famous dirt-bike rider. He loves anything with a motor, even the lawn mower! He loves to cook and makes the best BBQ potatoes.

When I was little, my mom and I would drive under an overpass while a train was going over the top, and she would say, "Make a wish." I still make wishes and every one is for Bailey. I wish we could wake up from this bad dream and that he would be perfectly healthy. I wish for less medication. I want him to know what it is like to sleep through the night and wake up in the morning feeling great.

I have so much to be grateful for. I have had the wonderful experience to know and LOVE Bailey. I have dedicated my life to making sure he stays healthy. I want to thank the Stacks and the Cystinosis Research Foundation for everything they have done.

Together we can all make a difference in reaching this goal and finding a cure for cystinosis.

DID YOU KNOW ?

- Cystinosis is a rare, inherited metabolic disease that slowly destroys every organ in the body including the liver, kidneys, eyes, muscles, thyroid and brain.
- The disease is an "orphan disease," affecting only 500 people in the U.S. – primarily infants, small children and young adults – and fewer than 2,000 worldwide.
- There is a medication to slow progression of the disease, but it is not a cure.
- Federal funding for research is virtually non-existent and pharmaceutical companies remain uninterested, because financial rewards are too small.
- In 2003, CRF was established with the sole purpose of raising funds for cystinosis research.
- Today CRF is the largest provider of grants for cystinosis research in the world, funding more than 23 studies and fellowships in five countries.
- Research on a complex disease like cystinosis provides the possibility of new discoveries and therapeutic treatments for more prevalent and well-known disorders. It is still very early but CRF is seeing exciting possibilities on those fronts as well.
- CRF has changed the course of cystinosis research and given new energy to its investigators and researchers.
- **For the first time CRF has given real hope and promise to the small community of cystinosis sufferers and their families.**

www.natalieswish.org



Jessica and Jay DeDio with Bailey, Pluto and Chris



1. What is the time frame for beginning clinical trials?

Our goal is to initiate a clinical study of our improved, delayed-release form of cysteamine bitartrate in the second half of 2008. The timing for the study will ultimately be dependent on the time to formulate and manufacture the new dose form, which we are actively working on, and time for FDA review and approval of our Investigatory New Drug (IND) application to conduct the study. We hope to be in a position to provide a more precise update at the Cystinosis Research Symposium in April.

2. What type of clinical trial do you anticipate — outpatient, weeklong study in hospital, etc.

We will consult with Drs. Schneider and Dohil on the study design. We anticipate an outpatient study with visits to the clinic for initial screening and blood draws. Study details such as number of patients, criteria for inclusion, etc., are still being worked out. Our plan is to design the study such that we have results to support a New Drug Approval (NDA) application at the earliest possible date.

3. Will the clinical studies be designed so that patients can remain on the new formulation while the application is at the FDA for approval?

This is our intention. The FDA has allowances that we expect will permit this.

4. Will there be multiple forms of the new slow-release — pills and a liquid?

Initially we intend to take a single dose form into the clinical study and subsequent NDA submission, in the interest of getting an improved product to patients as quickly as possible. We are looking into dosage forms that can potentially be applicable to infants and toddlers as well as older patients.

5. Realistically, what is the timing for bringing the new formulation to market?

While we hope to have an improved form of the drug available by early 2010, there are still many issues to be worked out that can ultimately affect the timing. Material sourcing and product formulation can greatly impact the overall development timeline, and we are particularly focused on those matters now. We expect the time for market approval will become clearer as we discuss our development plans with the FDA.

6. What other diseases do you think cysteamine will help? Will you conduct clinical trials for those diseases and disorders?

We are in discussions with clinical researchers about collaborating on clinical studies for other diseases. These are much earlier-stage clinical development programs than cystinosis.

7. Why was Raptor Pharmaceuticals interested in buying the patent for the EC Cysteamine?

Raptor's founders had experience developing and commercializing drugs for orphan indications at their previous company, BioMarin Pharmaceutical, a successful biotech company. We have great respect for what Drs. Schneider and Dohil have achieved in their pursuit of an improved therapy for cystinosis patients, and we felt that our experience and capabilities would complement their efforts well.

8. As things move forward, is there a role for the Cystinosis Research Foundation?

We certainly hope so. The Foundation has done tremendous work for this program already and we look forward to working with you going forward. We value the Foundation's role in supporting the clinical study, providing outreach, and helping us get feedback from the cystinosis community.

Bennu's EC Cysteamine product candidate is an improved, enterically coated, oral formulation of cysteamine bitartrate, a drug used to treat nephropathic cystinosis (cystinosis), a rare lysosomal storage disease. Bennu's formulation will potentially require less frequent dosing and reduce gastrointestinal side effects, compared to the currently marketed formulation of cysteamine bitartrate. These benefits are expected to greatly improve compliance and quality of life for cystinosis patients, who are typically children. Bennu obtained an exclusive, worldwide license to EC Cysteamine, as well as orphan drug designation from the FDA for EC Cysteamine for the treatment of nephropathic cystinosis, through its acquisition by merger of Encode Pharmaceuticals in December, 2007.

The active ingredient in EC Cysteamine has also demonstrated potential in clinical studies as a treatment for other metabolic and neurodegenerative diseases including Huntington's Disease and Batten Disease.



It all started with an e-mail message from Holt Grier's neighbor, Kelsey Doering.



HOLT GRIER'S FAMILY AND FRIENDS JOIN TOGETHER TO RAISE FUNDS FOR CRF

Kelsey Doering is 17 and lives next door to 2-year-old Holt Grier, who has been diagnosed with cystinosis. Kelsey had an idea to organize a walk in support of Holt and his family – with 100 percent of the donations going directly to cystinosis research through CRF.

On September 22, 2007, approximately 175 family members and friends participated in the 3K walk around the Grier's neighborhood in Charlotte, North Carolina. Participants hailed from four states – and donations came from as far away as Japan. Several neighborhood children literally broke their piggy banks for the walk. Thanks to Kelsey's efforts and those of family and friends, the event raised \$16,700 for CRF.

Holt Grier is the son of Jason and Chrissy Grier. Holt, who has two older siblings, Mary Logan and Jack, is an active, vivacious child who always has a smile on his face. He loves to laugh and sing *Twinkle-Twinkle Little Star*. He loves his siblings, trains, pancakes and eggs. And his curly hair stops traffic!

Holt was diagnosed with cystinosis in February 2007, three months after his first birthday. When he was 13 months old doctors noticed that he was not gaining weight, had severe constipation, an unquenchable thirst and had fallen off of the growth charts. It took three months, numerous tests and a lengthy hospital stay to diagnose his incredibly rare disease.

Like all cystinosis patients, Holt receives a cocktail of medications every six hours, which he must take for the rest of his life. He receives supplemental nutrition through a gastric tube that was inserted into his stomach when he was 15 months old. He will ultimately require hourly medications to prevent blindness and will most certainly require renal transplantation at an early age.

Holt is a fighter and takes all of this in stride quite well. He maintains a gentle disposition, rarely complains, fights through continual nausea with a grin and lives a full day every day. He teaches us how to be strong, how to fight, how to live, love, laugh and most importantly – to never give up.

Hope for Holt

Another group of Holt's family and friends have organized a partnership with CRF called Hope for Holt to raise awareness about cystinosis in hopes of furthering research and finding a cure. They have created a website, www.hopeforholt.com, and are actively engaging in fundraising activities, including the "Our Hearts for Holt" evening reception, which was held February 15 in Charlotte, North Carolina. The event raised an astounding \$76,000 for cystinosis research.

Mylan Laboratories: Purveyor of Hope

The cystinosis community expresses its sincere gratitude to Mylan Laboratories, Inc. for donating the medication, Cystagon™ (Cysteamine), for the ongoing research study at University of California, San Diego, to develop enteric-coated EC Cysteamine, the new time-release medication. These donations have significantly accelerated clinical trials and are expediting availability of the slow-release product.

Co-Principal Clinical Investigator, Ranjan Dohil, MD commented, "Initially we approached Mylan Laboratories seeking only enough Cystagon™ capsules for a one-month-study. The enthusiasm of study participants and their families for the twice-daily enteric-coated Cystagon™ was overwhelming and Mylan quickly agreed to donate more capsules.

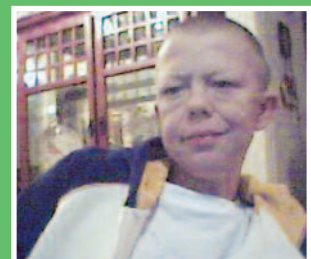
To date they have provided free of charge enough Cystagon™ to treat 6–8 patients with enteric-coated drug for up to one year." He concluded, "Without the immense support from Mylan this study would not have been feasible."

Cysteamine, the only drug that slows the progression of cystinosis by removing the cystine from the cells, was designated an "orphan drug" as defined by the Orphan Drug Act of 1983. In 1992, Mylan Laboratories Inc. assumed responsibility for developing Cysteamine in capsule form. In 1994, the new product, called Cystagon™, became available to children and young adults with cystinosis.

The introduction of Cystagon™ improved the quality of life for those who suffered from cystinosis and the development of EC Cysteamine will improve the quality of life for children with cystinosis even more.

In Loving Memory Alan Davis

February 16, 1981 to January 24, 2008



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CRF NAMES FOUR RESEARCH STUDIES

In recognition of their generous contributions and effort to advance cystinosis research, the Cystinosis Research Foundation is pleased to name research studies in honor of four very special supporters. Their efforts have significantly impacted the direction and speed of cystinosis research. Naming these studies is a tribute to their commitment and dedication to finding better treatments and a cure for cystinosis.

**“Parthenogenetic Embryonic Stem Cells as a Source of Immunocompatible Renal Progenitor Cells for Therapy of Nephropathic Cystinosis” – 2-year study
University of California, San Francisco**

Named in honor of Jenna and Patrick Partington
and The Jenna and Patrick Foundation of Hope

**“Scanning the Human Transcriptome in Cystinotic Cell Lines for Changes that are Associated with Genetic Variation in the CTNS Gene” – 2-year study
Southwest Foundation for Biomedical Research, San Antonio, Texas**

Named in honor of Natalie C. Stack
as requested by an anonymous donor

**“Yeast Model for Cystinosis” – 3-year study
University of Rochester Medical Center, Rochester, New York**

Named in memory of our dear friend, Marion Halfacre

**“Cysteamine Effects on Extracellular Matrix Accumulation in Chronic Kidney Disease” – 3-year study
Seattle Children’s Hospital Research Institute, Seattle, Washington**

Named in honor of Lynette and Michael K. Hayde

RESEARCH ANNOUNCEMENT

Mitomed Diagnostic Laboratory at University of California, Irvine is now offering genetic testing for cystinosis. The lab looks at the gene that causes cystinosis to find changes (mutations) that affect how the gene works. Genetic testing can be used to diagnose cystinosis and has a detection rate of 90 percent for people with clinical symptoms. Genetic testing can also determine carrier status for people who want to know whether or not they carry a cystinosis mutation and who could pass it on to their children. If possible, it is best to first test the person with cystinosis. Once the mutation that runs in a family is known, it makes carrier testing for other family members easier and more accurate. Genetic testing is done using a blood sample.

Contact Mitomed at 949-824-1886 if you or your doctor has questions about genetic testing, or if you have questions about how your doctor can order the test. You can also find information about Mitomed Diagnostic Laboratory at <http://mitomed.bio.uci.edu>. A section on genetic testing for cystinosis is currently under construction.

Cystinosis is a rare, inherited, metabolic disease that is characterized by the abnormal accumulation of the amino acid cystine in each cell. The build-up of cystine in the cells slowly and eventually destroys all major organs of the body including the kidneys, liver, eyes, muscles, bone marrow, thyroid and brain. Although medication is available to control some of the symptoms of this insidious disease, cystinosis remains incurable. Cystinosis afflicts approximately 500 people, mostly children, in North America and less than 2,000 worldwide. It is one of the 6,000 rare or “orphan” diseases in the United States that collectively affects more than 25 million Americans.

2007 RESEARCH STUDIES COMMITTED AND FUNDED \$1,936,030

MARCH 2007

Taosheng Huang, MD, PhD

University of California, Irvine

“Study on Mitochondrial Function in Cystinosis”

\$50,000 – Pilot research

Robert Ballotti, PhD

Christine Chiaverini, MD, PhD

INSERM U 385

Faculte' de Medecine, Nice, France

“Molecular Mechanisms of Hypopigmentation in Cystinosis”

\$125,000 – 2-year study

JULY 2007

Corinne Antignac, MD, PhD

Hospital Necker, Paris, France

“Characterization of Cystinosin Intracellular Trafficking”

\$85,000 – 1-year study

Bruce Barshop, MD, PhD

Jerry Schneider, MD

University of California, San Diego

“Practical Aspects of Intracellular Cystine Measurements”

\$109,886 – 1-year study

Ranjan Dohil, MD

University of California, San Diego

“One Year Treatment Study of Enteric-Coated Cysteamine in Patients with Cystinosis”

\$99,688 – 1-year study

Bruno Gasnier, PhD

Ellen Closs, PhD, Co-Principal Investigator

Institut de Biologie Physico-Chimique, Paris, France

“Identification and Characterization of the Lysosomal Transporter Involved in Cysteamine-Medicated Cystine Efflux”

\$243,000 – 2-year study

Taosheng Huang, MD, PhD, Mentor

Sha Tang, PhD, Postdoctoral Fellow

University of California, Irvine

“Molecular and Pathogenesis Study of Cystinosis”

\$106,180 – 2-year fellowship

SEPTEMBER 2007

Corinne Antignac, MD, PhD

Hospital Necker, Paris, France

“Purchase of Centrifuge and Rotor”

\$46,550 – Award Total

Meredith Fidler, PhD

University of California, San Diego

“Associate Project Scientist for Various Cystinosis Studies”

\$79,729 – 1-year research support

DECEMBER 2007

Eric Moses, PhD

John Blangero, PhD

Southwest Foundation for Biomedical Research, San Antonio, Texas

“Scanning the Human Transcriptome in Cystinotic Cell Lines for Changes that are Associated with Genetic Variation in the CTNS Gene”

\$183,470 – 2-year study

Bruce Barshop, MD, PhD

Jerry Schneider, MD

University of California, San Diego

“UCSD Tandem Mass Spectrometry Cystine Determination Resource”

\$118,845 – 1-year study

David Pearce, PhD

Season Phillips, Postdoctoral Fellow

University of Rochester Medical Center, Rochester, New York

“Yeast Model for Cystinosis”

\$173,474 – 3-year study

Holger Willenbring, MD

John McLaughlin, PhD

University of California, San Francisco

“Parthenogenetic Embryonic Stem Cells as a Source of Immunocompatible Renal Progenitor Cells for Therapy of Nephropathic Cystinosis”

\$248,000 – 2-year study

Allison Eddy, MD

Daryl Okamura, MD

Seattle Children's Hospital Research Institute, Seattle, Washington

“Cysteamine Effects on Extracellular Matrix Accumulation in Chronic Kidney Disease”

\$267,208 – 3-year study

To review the full abstract on any of the studies see the *Cystinosis Research Foundation Science Report* or visit www.natalieswish.org.

Cystinosis Research Foundation Fellowship Program

The Cystinosis Research Foundation has launched a post-doctoral research fellowship program to attract qualified, promising investigators to establish careers in cystinosis research. Fellows will be funded for 2–3 years to a maximum of \$75,000 per year. Applications will be available in conjunction with the spring and autumn *Call for Funding Proposals*. Visit www.natalieswish.org for details.

2008 Call for Funding Proposals

The Cystinosis Research Foundation will announce *A Call for Research and Fellowship Proposals* in the spring and autumn of 2008. CRF is prepared to fund proposals to improve the immediate care of children and young adults with cystinosis and to develop new understanding and treatment of cystinosis to help these children in the future. The Foundation has over \$1.2 million available for funding grants awarded in the spring. The number of awards and their value will depend on the number of outstanding proposals received and the funds available in 2008.



\$240,000 FORE CYSTINOSIS RESEARCH

The First Annual *Fore a Cure* Golf Tournament held October 1, 2007 at Coto de Caza Golf & Racquet Club raised a spectacular \$240,000, with 100 percent of the day's proceeds going directly to funding cystinosis research.

The 138 players that day were unanimous in their praise of the tournament with comments like, "best tournament I've ever played in," "fantastic day," and "I can't wait until next year's tournament."

The day featured 35 groups of business leaders, driving and putting contests, a cocktail reception, awards dinner and silent and live auctions. As players checked in they received a wine tote filled with a fantastic array of prizes including a Carnoustie golf shirt, Oakley sunglasses, Foot Joy golf shoes and Quicksilver flip flops. Participants also received hats – Coto de Caza caps for the men and St. John visors for the women, PRO V1 golf balls donated by Eagle Construction, divot tools provided by Bruce Lambert Jewelry Designs and ball markers provided by Plaza Bank. In addition, thanks to Jill Berteau, Don DuBois and Fidelity National Title, players received a bottle of Pinot Noir from Lincourt Winery.

On the course, the players participated in Longest-Drive and Closest-to-the-Pin contests. Hole-in-One prizes were provided by Irvine BMW and Traditional Jewelers. Lunch was served by Wahoo's Fish Tacos.

Cash prizes were awarded to the tournament winners,

many of whom graciously donated their winnings back to CRF and Natalie's Wish.

Following the tournament, cocktails and hors d'oeuvres were served during a silent auction that netted more than \$9,000. Following the steak dinner, a live auction netted \$27,000. Wine was provided by Ron Louterback and The Wine Club. The evening culminated with an impromptu fund challenge instigated by Time Warner Cable that raised over \$17,000.

Thanks to tournament Chair, Renee Carter, her tournament committee, more than 30 volunteers and countless others who worked to make this day a complete success both for CRF and all those who participated.

Join us on November 10, 2008 for our second annual golf tournament. It will again be held at the Coto de Caza Golf & Racquet Club and chaired by Vince Ciavarella. We anticipate a sell-out so make your reservations early!

SILVER SPONSORS

FannieMae; CST Environmental; Fidelity National Title; JM Realty; and Time Warner Cable.

BRONZE SPONSORS

Western National Group; SARES•REGIS Group; Oltmans Construction; Moran & Co.; JP Morgan; The Bristol Group; Frome Family Foundation; TLG Paving; MacFarlane Partners; Manly, McGuire & Stewart; David and RL Peters; Plaza Bank; Wells Fargo; MV&E Partners; Bank of the West; Sean P. Deasy of CB Richard Ellis; Real Page; and Cushman & Wakefield.

OTHER SPONSORS

Key Bank; Traditional Jewelers; Noelle Marketing Group; U.S. Trust Bank of America Private Wealth Management; Eagle Construction; First Regional Bank; Irvine BMW; St. John; Bruce Lambert Jewelry Design; Strategic Financial Group; The Wine Club; Villa Park Landscape; RKZ Architects; Lucas General Contracting; DMS Facility Services; Bevon & Herron; Capri Capital; Chapman, Glucksman & Dean; CommerceWest Bank; and Contractors Flooring.



Chairman Renee Carter announces award winners



Jeff Stack with sponsor John Manly



Golfers enjoy an early morning putting competition



John Hagestad, CRF Board Member; Daryl Carter, Avana Capital Partners; and Jim Curtis, The Bristol Group



Golfers enjoy a steak dinner after a day of activities