CFC International
Cardio-Facio-Cutaneous Syndrome

The CFC Chronicle

Caring, Facilitating & Connecting

Volume XVIII Number II *November 2015*

Eighth International Conference - our largest yet!

A record number of participants arrived in the SeaTac suburb of Seattle, Washington on July 15 to take part in the Eighth International Conference. CFC International is known for our signature family conference. Families and researchers come from all over the world and look forward to this bi-annual event. It is the world's largest program to support families and medical providers who have either CFC family members or patients with CFC syndrome.

The 66 families who came included 45 first timers who had a chance to hear presentations on the latest information on CFC syndrome. Seven families were awarded scholarships through Stephanie's Fund that was established by the Kohler family in memory of their daughter Stephanie. We even had two sets of identical twins at this event along with a Canine Companion Therapy Dog! The attendance reflected our growth as an organization since the 2006 gene discoveries.

We had all day Thursday appointments for families to meet CFC experts in the specialty fields of: genetics, cardiology, neurology, endocrinology, ophthalmology, orthopedics and education. Our CFC experts fielded a total of 153 appointments from 8:00 AM until 5:00 PM. We also had two research stations where families could participate in the growth assessment study at Baylor College of Medicine and a 3D craniofacial research project through University of California San Francisco.

50% of our annual budget is used to cover expenses related to the CFC International conference. We have kept our registration fees very low at $110 per adult and $50 per child along with the affected CFC individual free. The actual cost per adult for meals was $205. With handouts, audiovisual, childcare, workshop speakers, entertainment, medical speakers and consults with the experts, the actual cost is closer to $500 per adult.

Each conference takes over 12 months of full time planning to put on this huge event. Why do we invest so many resources in this program? Because we know it has a great impact. It changes lives. Providing a quality program that facilities lifelong friendships and family support along with knowledge about CFC syndrome is part of our mission. We know that this program does indeed *improve the quality of life through family support, research and education.*

In this Edition:

CFC International

Executive Director: Brenda Conger, Vestal, New York
President: Jennifer Iacobelli , St. James, New York
Vice President:
Molly Santa Cruz, Arroyo Grande, California
Treasurer: Kayla Stein, West Bloomfield, Michigan
Secretary: Shelly Greenhaw, Edmond, Oklahoma

Board of Directors:
Luba Djurdjinovic, Binghamton, New York
Pilar Magoulas, Houston, Texas
Cara Borian, Sinking Springs, Pennsylvania

Newsletter Editor: Peter Hoedjes, The Netherlands

CFC International
183 Brown Road
Vestal, NY 13850 USA
(607) 772-9666
E-mail: bconger@cfcsyndrome.org
Web page: http://www.cfcsyndrome.org

We offer information, support, newsletters, an address directory, brochure and Parent's Guide. Our mission is to assist those whose lives are touched by CFC Syndrome and to improve lives through family support, research and education. The group is self-funded. Contributions are gratefully accepted and will help the next family to receive information about CFC Syndrome.

CFC International and any associated parties will not be held responsible for any actions readers take based on their interpretation of published or disseminated materials. Please review medical treatments and decisions with your own physician.

Medical Advisory Board

Bruce Gelb, M.D.
Icahn School of Medicine, Mount Sinai, NY
Maria Ines Kavamura, M.D.
Universidade Federal de Sao Paulo ~ Brazil
Jacqueline Noonan, M.D.
Retired Pediatric Cardiologist, Univ. of Kentucky, KY
Mary Ella Pierpont, M.D.
University of Minnesota, Minneapolis, MN
Katherine Rauen, M.D.
University of California, Davis, Davis, CA
Amy Roberts, M.D.
Children's Hospital, Boston, MA
Suma Shankar, M.D.
Emory University, Atlanta GA
David Stevenson, M.D.
University of Utah, Salt Lake City, UT

Message from the Executive Director

We had our first volunteer meeting at the Seattle conference this past summer. We have developed committees and some of the volunteers have already started work to assist with different roles. As you all know, the 2017 conference will be held in Sugar Land, Texas. There is a large network of CFC families in that region. If you were not at the Seattle conference and live in Texas, we can still use more assistance so feel free to reach out and we will add you to our database of volunteers. In fact, we are still looking for more involvement from our family members so if you or a relative have a specific skill please do contact us at info@cfcsyndrome.org.

As I write this message, I am amazed at how time keeps flying by. We have had three of our original Medical Advisors retire since we convened at our very first meeting in 2000 in Salt Lake City, Utah. My initial plan had been to step down as director when the genes for CFC were discovered. Well, here it is 2015 and our work has only just begun since the 2006 gene discoveries. We now know that treatments cannot begin until we establish a CFC Registry so we can pinpoint exactly how many individuals there are who have specific gene mutations. Some clinical trials cannot be established unless there is a large enough patient population. Hence, a CFC Registry with all of us participating will open that door in the future to help our children. We have a committee reviewing the different registries available along with the cost factors. Our next newsletter will announce our registry program and how you can become involved to help with future treatments for our children.

I have made a formal announcement to our board that I will be stepping down as Executive Director at the 2017 Sugar Land conference. We will be posting the job in the next few months and I am hoping that a parent within our organization can take the lead while I work side by side with them over my last year. My job with the CFC families and the medical community has been the most rewarding experience of my life. I look forward to seeing what the future holds for all of you with so many great volunteers stepping forward to shape the future of CFC International.

Brenda Conger

Donations

Thank you!

CFC International is grateful to its supporters for their generosity.
We extend our deepest thanks to the contributors listed below for their kind donations.

Donations in Honor of:

Danny Adamowicz
StarRFoam Manufacturing
Megan Ankeny
Mike Brogdon
John Jaeger
Marilyn Kraft
Alex Montgomery
Rebecca Mulbery
Agnes Rivera
United Way of Central New Mexico
Leah Borian
Peter and Cara Borian
Kate Brockwell
Rodolfo Bosenberg
Kristine Lindsey
Court Maton
Nicole Stroud
Kenneth Wanless
Bryce Goedel
Susan Stokey
Kinley Greenhaw
William and Mary Acree
Amanda Holland
Fred and Karen Holland
Camden Kline
Cha-Ching Consignments, LLC
Rachel Kutzler
David & Mary Kutzler
Mandy Murch
Independent Order of Odd Fellows (Banner Lodge #4)
Aaron Rose
Dave and Cathy Rose
Amera Eva Louise Seabrooke
NPC International, Inc.
Becky Seabrooke
Danny Warner
Commonwealth Associates, Inc.
Joe and Deb Correa
Bob Lohner
Judy Price
Karen and Dan Van Houzen
Ken and Amy Van Houzen
Meg Young
Terri and Shawn Briggs
Ronnie Zeunen
Mandell and Madeleine Berman Foundation
Sam's Walkathon for CFC (Friends of Jenny Iacobelli)
Margaret Caffrey
Steven and Patricia Colleran
Steven and Rachel Colleran
Taryn Fordes
Michael and Johannah Gaughan
William and Debra Hartman
Darin and Jennifer Iacobelli
Deirdre Lehr
Thomas Mahoney
Guy and Coleen Mainieri
James and Cindy Mangan
Ellen McNally
William and Camille Michel
Kenneth Miller and Tara Creighton
Marie Murphy
Neponsit on My Mind Inc.
Mario and Tara Santillo
Jeannine Stathis
Walter and Roseanne Tumm
V. and K. Unkow

In Memory of:

James Bedgood Jr
Kelli Prescott
Fran Borian
David & Linda Arcidiacono
Anne Boehringer
Heather Burgess
Tom and Chris Capper
Josemarie Dvornicich
Mark & Cindy Fortunato
William & Kathleen Foster
Hugh & Judy Gallagher
Jodi Gibble
Chris Grady
Paul & Pirjo Kudurshian
Brenda & Hank LeCompte
Richard & Florence Maloumian
Tammy Marge
Elizabeth Morisi
Mal & Joan Mucciarone
Christine Murphy
Eugene & Eleanor Ott
Walter Richie
Harry & Mary Ann Smeck
Marcia Telthorster
Michael Tookmanian
Robey Williams
Owen Burke
Michelle Brisbin
Bonnie Borneman
Jeanna Hughes
April Mayse
Pediatric Surgeons-University Surgical Associates, Chattanooga, TN
Joyce Pressley
Barry and Judy Yelton
Stephanie Kohler Conference Scholarship Fund:
Glenn Brady
Mitchell Kohler
Jeffrey Kohler
Michael Mason
Elizabeth Anne Paschall
Jim & Cynthia Schumacher
Brody Gene Sims
Tommy & Christi Sims
Sheena Hightower

General Donations:

Aetna Foundation
Akron Children's Hospital
Berman Private Fund
Bravelets
The Burrow Family
Frances Caruth
Covidien Volunteer Incentive Program Grant
Shelly Greenhaw
Shelle Hartmann
King Quality Construction, Inc
Lincoln Land Community College
Kristine Lindsey
Masco Corp Employee Matching Gift Program
Jeff Morrison
Stanley Black & Decker
Nicole Stroud

CONFERENCE SPONSORS

CFC International is extremely grateful to our sponsors who helped us finance the Eighth International Family Conference. With their help, we were able to provide a forum where individuals, families, caregivers, educators and professionals joined to share experiences, learn from experts and discover new resources.

Baylor Miraca Genetic Laboratories ~ Estee' Lauder ~ Nawrocki Smith LLP
No Stone Unturned Foundation ~ TexPartners/MedPartners

- Samantha's Walk-a-thon
- Stephanie's Scholarship Fund
- Melba Baum
- Yvonne Beck
- Brian Belanger
- Marina Bilgin
- Cara & Pete Borian
- Andrea Boschert
- Mike Brogdon
- Holly Cheesborough
- Cliff & Brenda Conger
- Luba Djurdjinovic
- Pat Dodson
- Downey & Company
- Ron & Sara Gambassi
- Linda Griffin
- Amanda Krejce
- Guntram Krzok
- Mountain States Insurance Group
- Rebecca Mulberry
- Vito & Dana Scutero
- Rob & Kayla Stein
- Vicki Taylor

Jazzin' for Jack Fundraiser

Music is in the blood of the Waddell family. Jason, Associate Professor of Music at Lincoln Land Community College, met Becky, children's group piano instructor at The Music Factory, while both were pursuing their Bachelor and Master Degrees in Music. This holds true for Jackson, age 6 (BRAF), as well. The middle child of the family, Jackson loves everything music.

In the past, LLCC Stolen Moments Jazz Combo and LLCC Big Band have held several interactive private concerts and instrument petting zoos for those in the special needs community as well as for young children. It seemed only natural for Jane Hartman, Jason's colleague, to host a fundraiser to benefit CFC International. The first annual Jazzin' for Jack was held on May 11th, 2015 at First Christian Church in Springfield, IL. Family, friends, and community members attended the event. Jackson sat front row and clapped, moved, and sang to the music.

During intermission, Jason Waddell shared information about CFC Syndrome, CFC International, medical conferences, and research. $404 was raised to benefit CFC International.

Jazzin' for Jack Fundraiser

The Waddell Family
Jason, Becky, Evelyn, age 9, Jackson, age 6 and Katie, age 3
Pawnee, Illinois

Walk- A- Thon For CFC

My daughter Samantha started raising money for CFC a few years ago in support of our friend, Nola Iacobelli, who was born with CFC syndrome. Samantha sold shells and handmade crafts on the 4th of July for a few consecutive summers. The neighbors and friends began to look forward to the sale, and in addition to raising some money; Samantha was raising awareness for CFC.

When Hurricane Sandy hit our area, Sam was no longer able to hold her annual sale. She didn't want to let that discourage her from making her yearly donation to CFC International. Instead of feeling defeated, Sam switched gears and went from selling shells to hosting a Walk-A-Thon. It was a huge success! It has officially replaced the 4th of July sale as Sam's yearly fundraiser.

This year's event was held on May 2, 2015. It was a beautiful afternoon, made even better by the participation of Nola herself! The walk was a little over a mile, along the main streets of the Rockaway Peninsula. It was the perfect venue for people driving by to honk to show support and passerbys to ask questions.

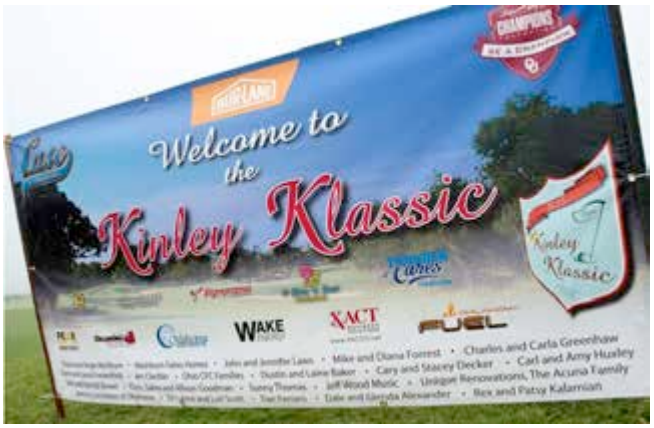
Approximately 20 people walked in honor of Nola and CFC. Those who were unable to attend supported the event by making a donation to CFC International. Samantha raised a total of $2,805.

Rachel Colleran
Neponsit, New York

Kinley Klassic- May 18th, 2015

For many years, Coby and I wanted to share our family's journey with friends and loved ones in a way that brings awareness to our daughter's abilities and challenges, while also focusing on how we can contribute to impacting others in a lasting way. Last year, we decided that we would begin the "Kinley Klassic", incorporating one of our favorite pastimes, golf, with awareness of two organizations that have supported us and sustained us through the last 13 years, CFC International and Oklahoma Family Network. This inaugural year, our goal was to raise a little bit of money and a lot of awareness for CFC International.

With much planning and an amazingly beautiful day when the sun peeked through several weeks of rain, we hosted over 112 golfers and an additional 100 Bar-B-Q lunch/auction



participants at our home course, Tour 18 at Rose Creek. The golfers played a scramble format, opening with bag pipes and a 9:00 AM shotgun start, with "Kookie Karts" running alongside the beverage carts all day (Kinley's favorite snack is a chocolate chip cookie), and her favorite resin goose, "Gussie" dressed and ready to greet guests at the check-in table. All of the Par 3 holes had games and prizes, as well as holes that included long drive and closest to the pin. We also created sponsorship levels that were unique to Kinley's "favorite" things, such as the Gussie, the Buddy Boy (one of our sweet dogs), the Cookie House, and the Dancin' Boots, all of which provided varying levels of sponsorship "swag." For each of these donor levels, donors received canvas art work made by Kinley (and beautifully framed by her really adorable dad). We also had hole signs available for sponsorship. Perhaps what was most endearing to us was the involvement and support of so many of our CFC brothers and sisters who contributed to the tournament. The Ohio families sponsored several holes, led by efforts of *Danielle Goedel*, while *Judy and Jack Doyle, Fred and Karen Holland, Netti Braun, Claire Peters and Brenda Conger* provided lovely auction items! Other CFC families showed their support by donating their talents and time, including *Machelle Sims* and her sister *LaTara,* who came in support of our CFC family, *Sherri Young* and her beautiful *Meg* ("Meggers" distributed a great deal of cookies on the Kookie Kart), *Sunny Thomas*, who donated his gift of photography for the event, taking pictures of each team on the 18th hole and providing these to players, and *Fred and Karen Holland*, who also came for the auction and luncheon. By week's end, the rain settled back in, the auction items got delivered, and the checks kept coming. We received beautiful flowers from the Mortimers congratulating our group on the event, which was quite humbling! We were in complete awe of the day's event, with the blessing of just over $34,000 raised for CFC International, and over 200 people leaving with a bit more knowledge about Cardio-Facio-Cutaneous Syndrome.

Thanks so much to our CFC family for your encouragement as we strive together!

-Shelly Greenhaw

Step Right Up!! A Carnival-Themed Party to Benefit CFC

For the past three years, my husband and I have hosted a summer party for our friends and family. After attending the CFC conference fundraising session in Seattle this past summer, I was inspired to do something different for our summer party this year.

The Warner Carnival fundraiser

My husband is a manager at Great Lakes Rental, a party rental company in Ohio. One of the benefits of working for such a company is that we can get fun party equipment for free or little cost. Taking advantage of this benefit, we decided to host a carnival-themed party. Through my husband's company, we were able to get carnival inflatables, a nacho machine, a hotdog roller and a popcorn maker.

I used my Christmas card list and other friends as a basis for our guest list. I invited my son Danny's best friend from preschool and the Hoy Family (Ava, CFC) who live in a town nearby. I also invited my co-workers as an opportunity to use this party as a team building and family fun event. On the invitation, I indicated that we would be having a 50/50 raffle fundraiser with proceeds benefiting CFC International. I also provided an easy way for people to make a donation by mail if they could not attend the party.

We had about 40+ people in attendance and almost everyone donated to the 50/50 raffle. We also received some donations on top of the 50/50 as well as donations from those who couldn't make it. In total we raised around $600 and donations are still coming in!!

Just know that no matter how small an event may seem, it still makes a huge difference to our CFC community! I learned at the fundraising session in Seattle that people love to give Time, Talent or Treasure - just provide them the opportunity to do so.

Meg Warner
Perrysburg, Ohio

Owen Thomas Burke's Poem to His Parents

by Rick Burke

A song... sound not spoken
A walk... steps not taken
A heart not broken
Breath fiercely taken
Happy places
Mom and dad's faces
sounds they say
stories
the wonderful red reaching arms
a glimpse specially given
hold hands
four fingers cover one
One hundred six days of joy
happy to be
Sunshine
At last .... an untethered breath
Come rain
cover tears
nary a cry
happy place ....
four fingers cover one

March 19, 2015 - July 3, 2015

Dr. Bruce Gelb


Dr. Bruce Gelb

Bruce D. Gelb, M.D. is the Director and Gogel Family Professor of the Mindich Child Health and Development Institute at the Icahn School of Medicine at Mount Sinai, NY. He is Professor of Pediatrics and of Genetics and Genomic Sciences. Dr. Gelb completed a pediatric residency and pediatric cardiology fellowship at Babies Hospital of Columbia-Presbyterian Medical Center and Texas Children's Hospital at the Baylor College of Medicine, respectively. He joined the faculty at Mount Sinai in 1991 after fellowship and has remained there since. He developed an extensive program in genomics/gene discovery for congenital heart disease. Dr. Gelb directs the Cardiovascular Genetics Program at Mount Sinai.

Since Dr. Gelb's discovery of the first gene for Noonan syndrome in 2001, he has been deeply engaged with the RASopathies, both clinically and through research. He has attended many family support meetings, including performing medical consults for CFC families during the past four summer meetings. His research efforts are focused on discovering the missing genes for RASopathies and finding therapies for these disorders.

CFC Welcomes Newest Board Member


Cara Borian

Cara Borian and her husband, Peter, live in Sinking Spring, PA and have three children, Colleen (16), Kieran (14), and Leah (6-CFC). They have been part of CFC International since 2010 when Leah was diagnosed with a BRAF mutation at eight months old. They stay busy trying to keep up with the older kids sport's schedules which include cheerleading, football, basketball and baseball. Luckily Leah is a huge fan of her brother and sister and loves to tag along. Cara's background is in chemical engineering and after leaving the field to stay home and raise their children for almost 15 years she has recently returned to the workforce. She has embarked on a new career and is the marketing manager for a telecommunications company called Agility Communications Group.

Cara has been volunteering for CFC International since 2012 by sending out all the thank you letters for the donations that are received. She has also been involved in volunteering for MOMS Club International, a support group for at-home mothers, for over 15 years and currently serves as an Assistant Regional Coordinator. Cara has found CFC International to be a great support in Leah's CFC journey and is looking forward to giving back by serving as a board member.

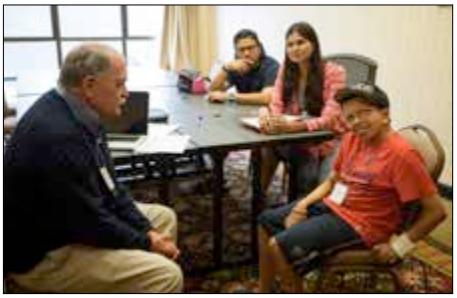
~~ Save the Date ~~

CFC INTERNATIONAL
9TH INTERNATIONAL
FAMILY CONFERENCE

June 28 – July 1, 2017

Marriott Sugar Land Town Square
Sugar Land, Texas

Highlights from the Seattle, Washington Conference













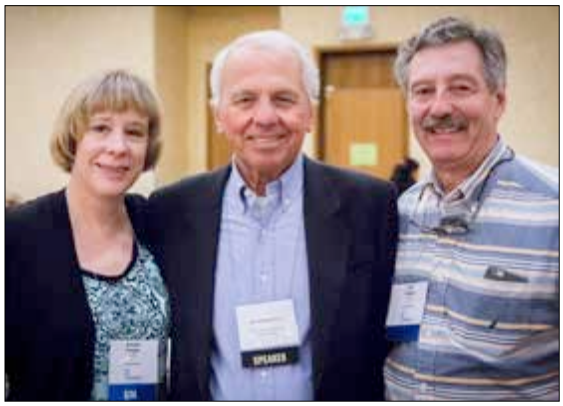


Giovanni Neri: My life with the CFC syndrome

I have written before about my relationship with the CFC syndrome. Doing it again now is a way of putting a seal of authenticity on this relationship at the time when I formally step down from the Medical Advisory Board of CFC International, on which I have served from its inception. It has been for me a great honor, an equally great learning experience, and an even greater human enrichment. Congregating periodically with the CFC families, knowing their struggle first-hand, admiring their resilience, becoming friends, made me a better doctor and, hopefully, a better person. So, thank you, all the CFC community, for what you have done for me.

Whatever I have done for you, much or little as it may be, can be extracted from the following story. Let me start by saying that I believe in our lives being guided by a design, unknown to us, which presents us with the opportunities to make critical decisions about our lives by placing us in the right place at the right time. Then it is solely for us to seize or to let these opportunities go. This is how I first became a doctor, which I didn't particularly want to be, then a geneticist, which was not on top of my list of wishes, then a clinical geneticist, which I had never seriously considered before it happened. I never regretted any of these choices. On my way to become a clinical geneticist, I found myself in the right place at the right time to stumble onto the CFC syndrome, yet to be named that way. Let me tell you how it happened and how the relationship developed.

The year was 1983. My family was then composed by my wife, two children and myself. Our third child would be born two years later. We arrived in Helena, Montana on Labor Day after driving cross-country, to be greeted by John Opitz, one of the founding fathers of clinical genetics in North America, known internationally for the discovery and description of a host of malformation/intellectual disability syndromes. During a visit to Rome a few months earlier John had invited me to go and train with him, an opportunity I seized without hesitation. We were to stay for a six-month period and those were indeed six memorable months, professionally for both myself and my wife (she is also a doctor), and personally for the entire family. The winter was bitter-cold, which did not prevent us from enjoying the beauty of the country, ranging from Yellowstone in the South, to Glacier Park in the North, bordering with Canada. For city people like us, exploring the wilderness of America's West was an experience that remains indelible in our memory.


Brenda Conger, Dr. Giovanni Neri, Cliff Conger

Jim Reynolds was John's partner and he and I worked closely together during that winter, seeing patients and reviewing cases stored in that treasure trove that was John's archive of clinical cases. One day John handed us ten files of as many patients that he thought shared a previously undescribed multiple congenital anomalies/mental retardation (now intellectual disability) syndrome. After a few weeks a report was ready, and it was submitted for publication to the American Journal of Medical Genetics, of which John was editor-in-chief. To avoid an obvious conflict of interest, the paper was assigned to Dr. John Carey, who acted as guest editor and sent it out for review. When an editor tries to publish in his own journal, one would expect the process to go smoothly. Not that time. At least one of the reviewers felt strongly that there was nothing new in our report and that we were simply rediscovering the Noonan syndrome. The paper hanged in a limbo for several months, until a compromise was reached: the report was to be published as the description of a new syndrome (the cardio-facio-cutaneous syndrome), but two of the initial ten cases were left out as unconvincing (as in fact they were). That paper remains as a landmark in the CFC history, but it turned out to be less then exhaustive. For instance, we missed seizures as one important component manifestation of the syndrome. To be fair, it must also be remembered that the same year Baraitser and Patton described the same entity in a paper entitled A Noonan-like short stature syndrome with sparse hair [Baraitser and Patton, 1986]. Yet, that paper, which would deserve proper credit, is seldom quoted. My impression is that the reason for this neglect is in the title, that falls short of stating the discovery of a new syndrome (with a new name).The Noonan-CFC controversy went on

for several years, with the exchange of letters that laid down arguments in favor of one of the two views (one syndrome or two syndromes?) and opposing the other [Neri et al., 1991; Lorenzetti and Fryns, 1996; Neri and Zollino, 1996]. Curiously, at the beginning I was blinded to the evidence that CFC and Noonan are indeed look-alikes, and am glad that now I can see the obvious similarities, rooted in a shared pathogenesis. In any event, I felt vindicated when, in 2001, Marco Tartaglia, Bruce Gelb and their coworkers discovered that mutations in the PTPN11 gene cause the Noonan syndrome [Tartaglia et al., 2001] and, together with Ines Kavamura, we showed that these mutations are not found in CFC patients [Kavamura et al., 2003].

This latter report, that I am particularly fond of, has its distant origin in the first conference of the CFC families, who gathered together in Salt Lake City in the summer of 2000, at a time when the Noonan-CFC controversy was not yet settled. The conference was hosted by John Carey and John Opitz, and one thing I remember for sure is that it was very, very hot. I am also trying to remember which other doctors were there: Jacqueline Noonan, whom I met there for the first time, Judith Allanson, David Viskochil and others, including one young dermatologist from Brazil, Ines Kavamura. A student of the Brazilian geneticist Decio Brunoni of the University of Sao Paulo, she had already an in-depth knowledge of the CFC syndrome, having seen many patients, and was there to start working with Dr. Opitz on her Ph.D. thesis. But it so happened that John was already committed to spending a sabbatical year in Rome in 2001-2002, and that circumstance also brought Ines to Rome. That is how we worked together to demonstrate that a dozen or so cases with a bona fide diagnosis of CFC syndrome did not harbor a PTPN11 mutation. Unfortunately, at that time we could not test those same patients who were described in the 1986 article. In those days it was not customary to collect DNA samples for future analysis. As far as I know, only one of those original cases was analyzed and tested positive.

The Salt Lake City conference was a great learning experience. I remember the clinical sessions where we examined the kids, the many unanswered questions asked by the parents, the doubts, the maybes, the resulting frustrations. But also the firm conviction that something good could be done, and ought to be done, to improve the health of the affected kids, to discover the cause of the condition and eventually a cure. In the year 2000 these expectations sounded very ambitious, and none of us doctors would commit himself or herself to saying that a causal gene would soon be found, much less a cure. But the families were relentless, a true driving force that helped us stay on a path that eventually led to the goal.

In 2005 there was the discovery that mutations in the HRAS gene cause the Costello syndrome [Aoki et al, 2005], another condition that has many clinical manifestations in common with the Noonan and CFC syndromes, but also a very important difference, namely an increased risk for the affected kids to develop tumors in their childhood. And finally, in 2006, two groups, one in the US and one in Japan discovered the genes whose mutations cause the CFC syndrome [Rodriguez-Viciana et al., 2006; Niihori et al., 2006]. Personally, I was more involved with the work of the Japanese group, providing them with those same DNAs that had tested negative for the PTPN11 mutations. The discovery of the CFC causal genes (BRAF, MEK1, MEK2, KRAS) was the final proof that CFC and Noonan are separate conditions. I remember the excitement of those days, when e-mails traveled constantly between Japan and Italy and between Italy and the US where, in the meanwhile, CFC international had been established. There were tensions too, but eventually everything fell into place and the alliance won.

This victory is not the end of the story. In fact, it can be seen as a new beginning. We have learned a great deal, but not nearly enough. Now we know why Noonan, CFC and Costello syndromes all look alike: because they share a common pathogenesis, originating from the malfunction of different proteins of the same cellular signaling pathway, the so-called RAS-ERK pathway, which regulates growth, differentiation and programmed cell death. But we do not know why there are differences in clinical presentation and, more importantly, we do not know how to fix the malfunctions. I cannot predict how long it will take to find an effective cure, but in the meanwhile, CFC International persuaded its Medical Advisory Board to produce guidelines for the diagnosis of the syndrome and the care of the affected individuals [Pierpont et al., 2014], an invaluable tool for doctors and families alike. We cannot delude ourselves in thinking that a cure is around the corner. It's a tough bone, but I am sure that sooner or later somebody will get there, and if I have the fortune to see that day, I shall feel proud for having contributed, even if in a very small measure, to the making of something good for the patients, the highest reward a doctor can hope for.

And now, let me please close on a very personal note. In the course of my long medical practice, I have seen patients with all kinds of different problems, oftentimes so

serious to radically upset the life of the family. Kids in need of constant care, mothers quitting their jobs, a burden imposed on every family member. And forget about having free time and a social life. I have asked myself over and over again where these families found the energy and the moral resources not only to cope with their predicament, but in many instances to engage in the additional effort of helping other families and inducing the medical/ scientific community to become interested in the study of a given condition. CFC International is a successful example of that effort. I had no answer to that question until very recently, when my own family was hit not by the birth of a disabled child but by the death of a wonderful little girl. My granddaughter Mia passed away on August 8, 2014, a few weeks before her 12th birthday. An incurable brain tumor took her life after a short but very painful illness. The entire family was shattered, and we are still in the process of collecting pieces here and there and trying to put them back together. But at the same time we are reacting. The example of strength, dignity and love with which Mia accepted her fate gave us unexpected energy and helped us to get back on our feet and do something tangible to honor her memory. And that's how we established the Mia Neri Foundation (www.mianerifoundation.com), whose main mission is to raise funds to support research in the field of pediatric oncology. Now I have the answer to my question and a new goal in life.

Giovanni Neri
Università Cattolica del S. Cuore
Roma, Italy
gneri@rm.unicatt.it

Jacob's Legacy

Jacob was born at 10:20 pm on May 23, 2004. It was a Sunday night and after 16 1/2 hours of labor with NO pain medication, Jacob started to have trouble and I had to have an emergency C-section. I remember being so mad thinking 16 hours of labor just to end up having a cesarean! But, this was my first taste of what Jacob's life would be about.

Jacob had his own time clock and his own way of doing things. It would be on his time, in his way and all I could do was sit back and watch him conquer life in the only way he could. That first night he was brought to another hospital due to many health complications. Jason called me that night and told me the first 24 hours were critical. I prayed to God to just let me hold him one more time. A few days later my prayers were answered and I held Jacob again. As I was holding him, I prayed for more. And, that's just what God gave me.

May 23, 2004 - May 13, 2015

I could have never imagined what my life would become. Jacob and I have fought many battles together. He was always the strong one. Jacob never gave up and was ALWAYS smiling. That's another thing he taught me. No matter what, you can always find a reason to smile. I learned first hand how a smile could change a person's day for the better. He never needed words. Jacob could speak straight to your heart with that smile and his contagious laughter. In fact, I would bet only a handful of people ever heard him cry, but everyone who met him heard him laugh. That's what I want his legacy to be – the way he made people feel with his smile and his laugh. I want everyone to remember the sweetest little boy you could ever meet, who had just the right amount of rotten in him to make him fun.

As his mom, this is what I remember and what I will miss the most - I will cherish the memories of dancing with you in the kitchen. Even when my dance partner out grew me, we just held on tighter and kept dancing. I will miss ear kisses and playing "Boom Boom Chick Chick". I will miss you knocking on every surface and waiting for me to say, "come in" and knock back. I'll miss hearing, "I love you" by pressing Baby Tad's I love you button. I'll miss watching the Christmas Story three times a day and hearing you laugh hysterically when the leg lamp arrives. I'll miss you pulling my face down to yours when you wanted "Mommy lovies," and when I would ask for love back you would put your head down so I could kiss the top. I'm sure going to miss that.

I will miss all of your snuggles and good night hugs when you would squeeze extra tight. I will miss watching you suck on your fingers and wanting your feet rubbed. I'll miss you blowing raspberries at your Dad when he scolded you or changed the channel. I'll miss you turning over the dining room chairs and emptying the drawers if I

turned my back. I will even miss you pushing the ice dispenser, one of your favorite tricks.

There are so many things I'll miss. So many ways you made me better, stronger, more compassionate. You made me a fighter, Jacob. I'll carry you with me always. My first baby. My Jake Jake. I'll cherish the time that God gave me with you. I'll celebrate your life and keep your memory alive until I see you again. And, the next time I see you, you can carry me.

So I'll end by saying... Don't rest in peace, Jake. You've rested enough. I say...Run, Dance and Sing before the Lord. I'll see you soon, my sweet boy. Mommy loves you forever. I'll like you for always. As long as I'm living, my baby you'll be.

The Caudill Family
Totz, Kentucky

"Our 20 Year Journey to the CFC Conference"

I would like to share our story in an effort to offer hope and an optimistic perspective to the growing number of families affected by CFC syndrome. I would also like to share the tremendous impact that attending the 8th Annual CFC International Family Conference in Seattle, WA had on my son Alex and myself. Alex was recently diagnosed with CFC (MEK1) on March 6th, 2015. This is the story of our 20-year journey.

Alex was born on June 21, 1995 weighing 8 lbs. 6 oz., the largest and youngest of my three children. Although my pregnancy was considered high risk, there were no real issues at birth other than rapid breathing. Alex even scored 10 on the Apgar test. He was given antibiotics and sent home after a few days. Eight weeks later the severe symptoms of failure to thrive surfaced (vomiting, diarrhea and extreme fussiness). Time and time again we were told it's a virus and it will pass, he just needs a jumpstart. I'm sure this sounds familiar to other families - sleepless nights, continuous fussiness, trips to the ER, etc.

As time progressed, unfortunately Alex did not. Alex began PT and OT at three months old although he didn't actually speak any words until three years old. At seven months old a g-tube was placed. Alex was tested for everything you could imagine with all results coming back with no answers. At this point, Alex continued to suffer from failure to thrive, malnutrition, GI issues, and vision and ear issues. He had three strabismus surgeries, three rounds of tube placement in his ears, and skin, muscle and nerve biopsies. We still searched and waited for a diagnosis.

Keep in mind that this was occurring 20 years ago when very little was known about CFC or rare diseases in general. In addition, we live in a suburb of Baton Rouge, LA, and we quickly exhausted all of the medical resources within driving distance from our home. Alex started receiving care at Texas Children's Hospital and he spent a great deal of time at the Kleberg Genetics Clinic. Often times he was too fragile to travel by car so we would have to fly to Texas for his appointments. The care he received was amazing as we desperately continued our search for answers as to why my remarkably resilient, sweet little boy somehow seemed to conquer the brink of death each and every time he faced it. Alex proved to have a fight in him and he never gave up.

Alex began public school at three years old. We knew he was bright and also knew the importance of him learning and living with his typical peers. Obviously there is so much more to this story than can be covered in this short article. However, we never stopped trying to find answers and exhausted all resources available to us in this relentless search for "why?". The "why" was so important because we all thought that if we could figure out the "why" then we could offer the "fix".


Jaime and Alex Tindle

The incredible balance of wanting an answer while continuing to address Alex's needs at that particular time was my life's mission. It was all that mattered during his first 10 years. In unison with trying to find a diagnosis, we continued to give Alex what he needed as it was made evident to us. After we had gone full circle with all the genetic specialists available to us, our family dynamics changed to a single-mom household. I found this to be true survival time for our family of four. There are many

stressors placed on a marriage with having a child with special healthcare needs; emotional, financial and even spiritual that quite often ends in divorce.

Alex's oldest sister soon finished college and was now starting her career in New York City. Alex's next older sister was still in middle school and living at home with me and Alex. Trying to keep normalcy in our lives and knowing we were doing all that we could do for Alex, I came to the realization that not knowing a diagnosis for Alex was not unbearable. After all, we had exhausted all avenues of finding answers and yet, we still had Alex. He was happy and had begun to be healthier than any time in the first 10 years. I also thought that by not knowing the "why" there was no prognosis or barriers that would be discouraging us from reaching for the stars and helping Alex be all that he was destined to be. And the biggest thing was... I no longer had to "fix" him. He was exactly the way he was intended to be. He was happy, got the healthcare he needed when he needed it, he had friends and had begun to grow into the bright, handsome, funny young man that he is today. We continued to encourage Alex to learn and to always do more than he did yesterday. I don't think that will ever change.

Healthy ever after? Not so fast. Because Alex has scoliosis he had two spinal fusions, hamstring lengthening and adductor surgeries. Alex still has a g-tube because of his sensory defensiveness but that has improved; however, eating is tremendously difficult for Alex. Additionally, he requires an excessive amount of calories each day to maintain his slim frame and average height.

Although we had expended every viable option we could to find a diagnosis for Alex, he would ask me why he was made the way he was and why he was sick so often. Each time I would tell him he's perfect and we love him just the way he is and everyone gets sick every now and then.

Living so long without a diagnosis had become accepting for us. However, now that Alex was becoming an adult I thought it might be beneficial to try once more to find a diagnosis. After all, the advancement of medicine changes so rapidly I thought perhaps that now there was a test that could provide us with some answers. Dr. Dmitriy Niyazov, a geneticist at Ochsner Medical Center, shared with us information about a new and more comprehensive genetics test. Unfortunately this test was not covered by our insurance and was very expensive (approx. $16,000). Dr. Niyazov further explained that The Ochsner Clinic Foundation had charged him with finding one family that could benefit from this test; a family that had exhausted all available efforts. Humbly, I asked Dr. Niyazov to consider Alex. I was told that there are so many families in need of this gift and it was a very difficult decision to choose just one. I expressed my understanding and that was that. Surprisingly, two days later the genetic counselor phoned to say Alex would receive the gift of this test. Within 24 hours, Alex, his dad and I had given our blood samples and they were submitted for this testing. Results would take four to six months.

The day Dr. Niyazov gave us the diagnosis of CFC, two things were at the forefront of my mind - life expectancy and what could we do to help Alex be as healthy as possible. We were also directed to the CFC International website which opened the door for us to connect with other families affected by CFC throughout the world. We immediately found out about the 8th Annual CFC International Family Conference to be held in Seattle, WA. I knew Alex and I needed to attend the conference to meet others with CFC and their families, as well as to learn all that I could about the "why".

I have worked the past 12 years for a non-profit family resource center for individuals with disabilities and their families. I honestly did not think finding a diagnosis for Alex and meeting other families with the same diagnosis would have such an impact on both Alex and me. For me, attending the CFC Conference and meeting families with babies and younger children with CFC was incredible. The memories of the health struggles when Alex was younger came back to me as if only yesterday. Seeing babies diagnosed so early and their families connecting to other families in support of one another, reminded me of the similar emotions and experiences so many of us have in common. No matter what our background or where we are from, I could relate to everyone at the conference that I had the good fortune of meeting and even those I didn't get to meet. Just as heartwarming for me was to watch Alex enjoy the company of other young men like Clifford and Michael. To watch how they connected and laughed together was priceless for me.

Being in the presence of doctors, researchers and therapists that were familiar with CFC was definitely a highlight for me as was the opportunity to meet the experts who each spent 20 minutes of hands-on time with Alex and me. The entire conference was extremely informative. I attended all of the workshops that I could, wanting to

learn everything possible about this new phase of our lives. I can't even imagine the work involved with the coordination of collecting so many experts, presenters and researchers while paying such close attention to the intricate details of the family's needs. My greatest appreciation to Brenda and Cliff Conger, the CFC Board and the gracious sponsors.

We cannot wait until the 2017 CFC Conference in Sugar Land, TX!!!

Sincerely grateful,
Jamie S. Tindle

CFC Conference 2015: A Newly Diagnosed Family's Experience

Our family had the privilege of going to the CFC Conference in Seattle in July, and it was an experience that gave us much needed hope for Gloria's future. The conference was an opportunity to translate the friendships and relationships that we had formed through the forum and Facebook group into the real world. It was an opportunity to catch up with people that are truly part of this impromptu family of people affected by CFC.

The Rogers Family

Our daughter Gloria tested positive for CFC in April of 2014 and we were finally given the results in August of 2014 (it's a long story). We immediately reached out to Brenda and the rest of the CFC community trying to get as much information as possible and learned about the conference. I know there were many more people who would have loved to attend the conference, but were unable to for many reasons. Let me remind everyone that there are scholarships available to help attend the conference, and that through the generosity of other families and sponsors the scholarships and conference itself is within reach (if you start planning early enough). We began making plans to attend and even snuck in a few specialist visits, with a pit stop in Portland, on the way to the conference in Seattle.

Once at the conference we immediately began connecting with people affected by CFC and parents of those affected by CFC. We hung out by the pool with Gloria and just soaked in the reunions of friends and introductions of new ones. We took turns watching Gloria during the sessions and brought her to the Meet the Experts. It worked out quite well and we look forward to bringing our other daughter Aurora to the next conference in Texas.

The conference kicked off with a new parent night in which we got the lay of the land and had an opportunity to learn more about the organization that makes all of this possible. I have seen the hard work and dedication that exudes from those that support our organization, and we are definitely a blessed group to have the caliber of leadership we have. CFC International has assembled a great group of experts in nearly all the areas that CFC affects (Brenda said we were still looking for a Gastroenterologist though).

We next attended the sessions with the specialists. It was nice to finally have an opportunity to speak with specialists that knew about CFC and understood the challenges and could give us a better idea of what to expect in the near future. We then had the opportunity to attend the breakout sessions and learn so much about CFC, and what to be on the lookout for. We also had the opportunity to watch presentations by experts on all kinds of topics from genetics, cardiology, neurology, vision, and even tablet apps.

The best part of the conference was connecting with all the CFC family from around the world that we had met online. Learning the spectrum of CFC and getting an idea of Gloria's future was very uplifting. It was a much needed injection of hope. A special thanks to the board of CFC International and all those that made the conference a great success. I look forward to seeing everyone again in two years in Texas.

Les and Jen Rogers
Roseburg, Oregon

CFC International
Cardio-Facio-Cutaneous Syndrome

183 Brown Road
Vestal, NY 13850

RETURN SERVICE REQUESTED

Our vision is a world in which no one will be isolated from appropriate diagnosis and treatment.

Would you like to contribute to CFC International?

Enclosed please find a check in the amount of $_____

Gift in Honor of _____

Gift in Memory of _____

Please make checks payable to CFC International & mail to the address above.

We are a 501(c) 3 organization. Donations are tax deductible to the fullest extent of the law.

Name: _____

Address: _____

City: _____ State: _____ Zip:_____

Phone: _____ Email: _____