

HELPING HANDS

FOR FRIENDS, FAMILY, AND SUPPORTERS OF THE CHILDREN'S GAUCHER RESEARCH FUND



INSIDE:

2nd Annual ChasenTailz

Summer and Jay Warren honor their son

Page 2



Scientific Conference

Gaucher and Parkinson's - Recent Discoveries and Future Directions

Page 3



Dr. Raphael Schiffmann

Scientific Collaboration in Egypt

Page 3



Gene Therapy for Gaucher Disease

Tanya Collin-Histed

Page 4



Robert McCall

To give is to be fulfilled

Page 5



Weizmann Institute of Science

Ranked in Top 10

Page 5



AmazonSmile

Shop on AmazonSmile and support the CGRF

Page 5



RECENT DISCOVERIES & FUTURE DIRECTIONS

The Parkinson's Connection

May 2016 ... in Washington D.C. ... the CGRF will bring together 30 of the world's foremost experts on neurological diseases, to what we believe will be a breakthrough meeting. What was once debated is now accepted by the scientific community. The title of our conference signifies what the scientific community now believes ... "Gaucher and Parkinson's - Recent Discoveries and Future Directions"

CGRF Research Funding Increases

Scientific breakthroughs, as a result of your donations, that have been published in preeminent medical journals have caused us to increase our funding of research. The CGRF has doubled our funding to the Weizmann Institute of Science ... now \$200,000 per year. In addition, we are looking to fund an additional \$100,000 of research in 2016.

Great Progress

How does a small grass roots organization like the CGRF make such great progress? Your generosity has allowed us to raise over \$2.5M ... fund research of \$100,000 per year ... and now \$200,000 per year ... and potentially \$300,000 in 2016 ... but in the grand scheme of scientific research, these are small dollars. How, with a modest annual budget, has the CGRF been able to move the field of research forward? The benefit that the Children's Gaucher Research Fund has bought to the field of neurodegenerative Gaucher research has been the result of ...

1. Modest yet consistent funding of scientific research
2. Over a long period of time (approximately 15 years)
3. Building the foundation of understanding by choosing basic laboratory science
4. Carefully choosing each successive research proposal so that each funding builds upon the prior research grant.

Family Commitment

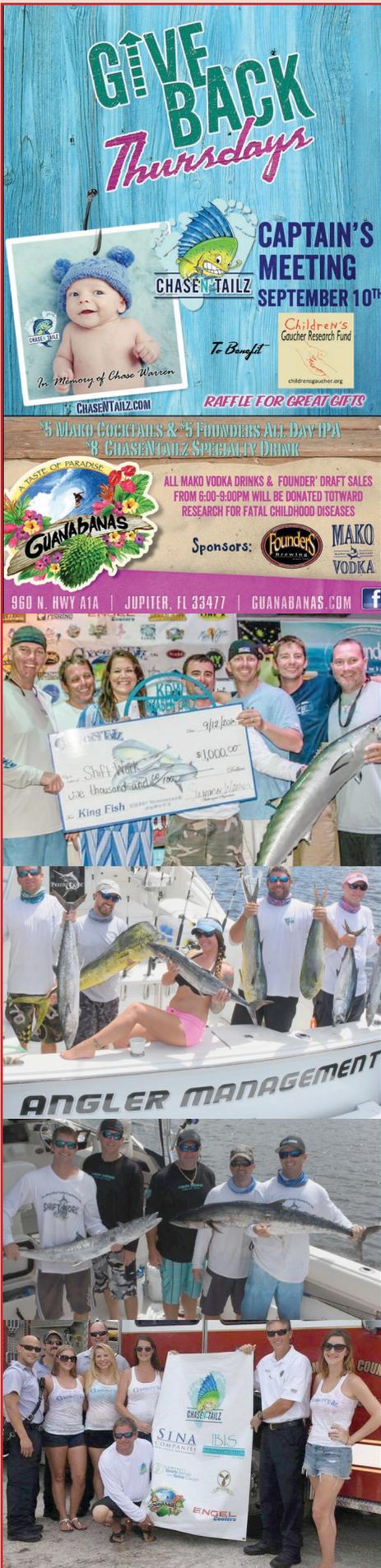
Families make the difference. Mothers and fathers who have lost a child to Gaucher disease ... we know the pain, the anguish, and the feeling of emptiness. This void is filled with the burning desire to say their name – to tell their story – to honor their life – to help build their legacy. In this issue, you will read how one of these families, Summer and Jay Warren, have worked hard to honor their son Chase. We are amazed by these families who ... with strength, love and commitment transform their grief and help build the gift of hope. ■



DEBORAH MACRES AND GREG MACRES



Easy & Efficient
Cost Effective
www.cgrf.org



2ND ANNUAL CHASEN'TAILZ

KDW Fishing Tournament in Memory Of Chase Warren, Jupiter FL

To say we miss Chase just doesn't convey the massive void in our hearts that can never be filled. We vowed on August 7th, 2013, the day Chase died that we would help other children, families and keep Chase's legacy alive. We strive to keep that promise through Chasen'Tailz Fishing Tournament as well as many other charities we are involved in.

“CHASE WILL LIVE FOREVER IN OUR HEARTS AND THE HEARTS OF OUR SUPPORTERS.”

Our 2nd Annual event started with a kick-off party at a local brewery “The Twisted Trunk” with an amazing turnout. We spread awareness about Gaucher type 2 and many people who never knew Chase learned of his story and courage. Our Captains meeting to start the tournament on Sept 10th at Guanabanas Restaurant had over 50 boat captains and 200 Anglers ready to fish, raise money and have a wonderful time in Chase's memory. The awards ceremony included raffles, silent auction and many giveaways.

“WE VOWED ON AUGUST 7TH, 2013, THE DAY CHASE DIED THAT WE WOULD HELP OTHER CHILDREN, FAMILIES AND KEEP CHASE'S LEGACY ALIVE.”

The support Jay and I felt was indescribable and at times we were overwhelmed by the love. We shared our mourning hearts and fears of Chase being forgotten. We raised a lot of money and



awareness with this year's tournament. We now know we will never have to worry about anyone forgetting about Chase because of all the amazing supporters of Chasen'Tailz.

Although our tournament will never bring Chase back nor will it fill the void in our hearts, we are thankful to speak of Chase daily. Every grieving parent wishes to speak their child's name and make sure everyone knows how special they were. Chase will live forever in our hearts and the hearts of our supporters. Chasen'Tailz is donating over \$22,000 this year and looks forward to an even bigger event next year! ■



Parents to an Angel, Summer & Jay Warren

GAUCHER AND PARKINSON'S - RECENT DISCOVERIES AND FUTURE DIRECTIONS

... Scientific Conference, sponsored by the Children's Gaucher Research Fund:



Tony Futerman Ph.D.
Department of Biological Chemistry
Weizmann Institute of Science
Rohot, Israel

The upcoming scientific conference (Gaucher and Parkinson's - Recent Discoveries and Future Directions) will be held in Washington D.C. from the 6th to 8th of May 2016. This meeting follows the extremely successful meeting in 2012 and will follow a similar format, inasmuch as there will not be any formal lectures, as is normally the case in most scientific meetings, but rather a conference will be organized in the form of a round-table discussion. The idea is to get the best minds around a table and to have them thrash out ideas over a couple of days, trying to understand what causes the defects in nerve cells in Types 2 and 3 Gaucher Disease. We anticipate discussion of all sorts of issues, ranging from the function of nerve cells, to how the immune system responds in the brain in Gaucher Disease and of no less importance, the connection of Gaucher Disease to Parkinson's Disease. Mutations in the Gaucher gene are today believed to be the most common genetic risk factor for Parkinson's Disease, and this finding has completely blown open research in the Gaucher field. That is to say, scientists

"MUTATIONS IN THE GAUCHER GENE ARE TODAY BELIEVED TO BE THE MOST COMMON GENETIC RISK FACTOR FOR PARKINSON'S DISEASE, AND THIS FINDING HAS COMPLETELY BLOWN OPEN RESEARCH IN THE GAUCHER FIELD."

who previously had never heard of Gaucher Disease are now interested in understanding the pathology of Gaucher Disease and how this relates to Parkinson's. We are inviting Parkinson's experts, along with other world experts on neurological diseases, to what we hope will be a breakthrough meeting. ■



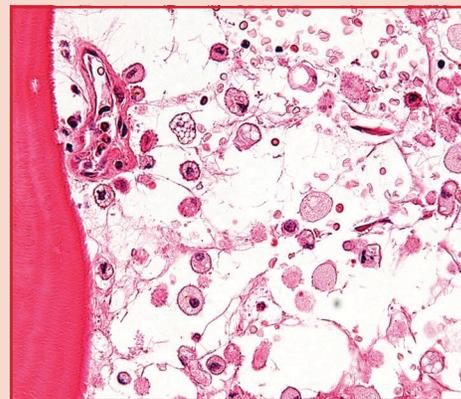
Raphael Schiffmann M.D., M.H.Sc.
Baylor Research Institute
Chairman - CORF
Scientific Advisory Board



CAIRO, EGYPT

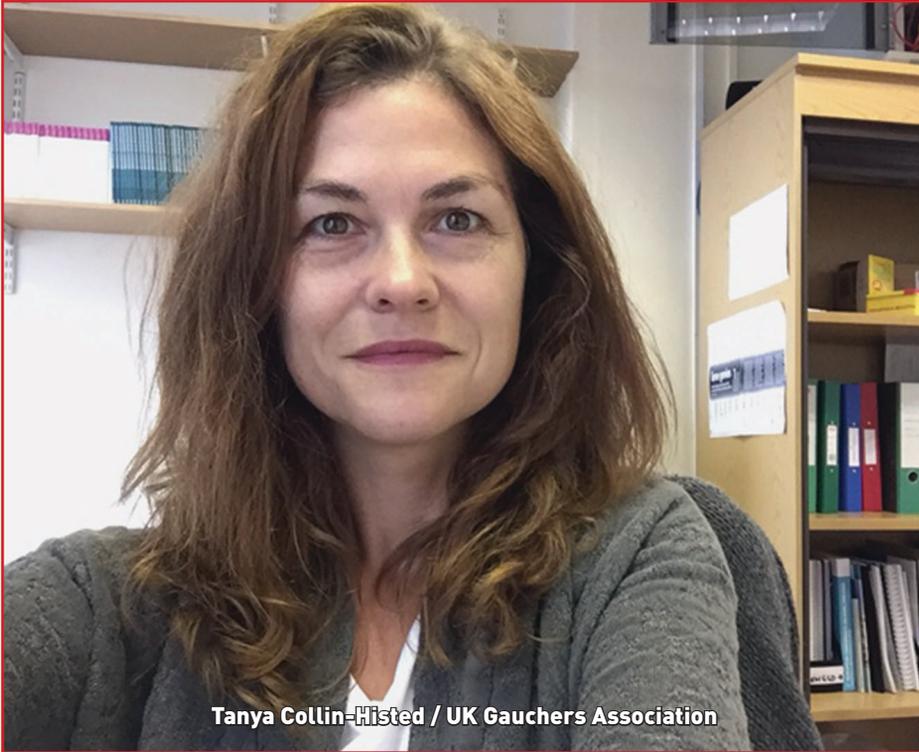
"... THE IDENTIFICATION OF THE MECHANISMS BY WHICH EGYPTIAN GAUCHER TYPE 3 PATIENTS ARE SO DISTINCT IN THEIR CLINICAL PRESENTATION WILL DEVELOP BETTER TREATMENT FOR ALL PATIENTS WITH NEURONOPATHIC GAUCHER DISEASE."

Although neuronopathic Gaucher disease (Gaucher type 2 and type 3) represents only about 5% of Gaucher patients in the US and in Europe, in countries such as Japan, Korea, China and Egypt, the majority of patients with Gaucher disease have the neuronopathic type. Dr. Magy Abdelwahab who is a pediatric hematologist at the Department of Pediatric Hematology, Cairo University Pediatric Hospital, Cairo, Egypt is following close to 80 patients with Gaucher disease type 3. The



vast majority of these patients have the most common neuronopathic mutation (L444P) of the "Gaucher gene". Dr. Abdelwahab identified unique and more severe disease features in her patients and will describe them in a scientific journal in collaboration with myself (Dr. Raphael Schiffmann). It is hoped that the identification of the mechanisms by which Egyptian Gaucher type 3 patients are so distinct in their clinical presentation will develop better treatment for all patients with neuronopathic Gaucher disease. ■

THE FIRST STEP TO GENE THERAPIES FOR GAUCHER DISEASE



Tanya Collin-Histed / UK Gauchers Association

The UK Gauchers Association is delighted to announce that on 12 February 2015 the Committee for Orphan Medicinal Products (COMP) at the European Medicines Agency (EMA) granted a positive opinion for orphan designation (EMA/OD/303/14) to the Association (as the sponsor) for adeno-associated viral vector stereo type 9 containing the human glucocerebrosidase gene (Gene Therapy) as a new potential treatment for Gaucher disease.

The regulatory world in Europe can seem overwhelming, as it requires navigating between the National Competent Authority (NCA) in each Member State and the European Medicines Agency (EMA).

To benefit from the EU Regulation on orphan medicinal products for rare diseases, it is necessary to follow a centralized procedure at the EMA. This allows for the designation of orphan medicinal products and puts in place incentives for the research, marketing and development of orphan medicinal products.

Traditionally it has been considered that only pharmaceutical companies can engage in this procedure with the regulators, however, this is actually open to individuals and academic / clinical institutions and patient groups.

Whilst existing enzyme replacement and substrate reduction therapies are effective in treating many areas of Gaucher Disease there remain significant unmet needs and challenges. No treatment is available to treat the neurological aspects of the disease which can range from eye movement and auditory processing to myoclonic seizure and premature death. Gene therapy could potentially address this by providing a cure for Gaucher disease. Although this is a first step in the long and complex process of bringing a treatment to market, we are extremely excited to receive this opinion, and to initiate the procedures that allow for communicating directly with the regulators.

What is Gene Therapy, how does it work and what does it mean potentially for Patients with Gaucher Disease?

Nearly every cell in our body contains a nucleus, each containing an entire, identical blueprint of our entire body. This blueprint is encoded into long strings of DNA which are bundled up tightly into chromosomes so that they fit in the nucleus. The DNA code is subdivided into genes – each containing the code for an individual protein. Every cell contains the same number of genes (about 24,000) but actually contains duplicate copies of each gene – one from our father, and one from our mother. When we inherit these genes, sometimes from our parents, sometimes the gene copying

process introduces an error (a “mutation”) which is so serious that the gene now codes for a protein that can’t function. In many cases this is ok – the copy from our other parent allows us to make sufficient amounts of that protein. However, sometimes if we inherit broken copies from both parents, no functional protein can be made. This is what happens with neuropathic Gaucher Disease; the patient has inherited two broken copies of the gene encoding Glucocerebrosidase.

The most elegant solution would be to repair the mutation in one or even both copies in every cell in the body. The technology to achieve such efficiency is still in its infancy. However, it may be sufficient if we are able to deliver working copies of the genes to a proportion of the right cells. The state of the art tools with which we can achieve this are the basis of a whole field of technology known as gene therapy – delivering genetic material to cure diseases. Nature has provided us with an excellent vehicle to deliver genetic material – the virus. It has been possible to take viruses which infect humans but do no harm, and create synthetic versions (known as “vectors”) which are designed only to deliver working copies of genes.

We have been working to develop a gene therapy treatment for neuropathic Gaucher Disease. To do this, we have been using a mouse model of this disease, created by Professor Stefan Karlsson in Sweden; affected mice perish before 15 days of age. We injected a vector, known as AAV9, to deliver working copies of the human glucocerebrosidase gene to neurons in the brain of these mice on their day of birth. Most of the treated mice lived more than ten times longer than expected and were healthy enough to breed. Given the encouraging results with mice, we are now looking at how this treatment might be given to babies diagnosed with this disease.

A session was held at the nGD family conference on Sunday 15th November to update patients and families on this exciting development, the session will enable families to meet with the researchers and ask questions.

We will keep you updated on our progress as we take each step forward on this long and exciting road by posting updates on our website and Facebook page and in future editions of Gaucher’s News. ■

Tanya Collin-Histed
Chief Executive
Gauchers Association
United Kingdom

CGRF

A Bit of History

...for those new to this newsletter



HISTORY: We (Greg and Deborah Macres) along with our four children currently live in Granite Bay, California. In 1997 our four-year-old son, Gregory passed away from Type 3 Gaucher disease. After Gregory passed away, we became motivated to find a cure for this devastating disease. We founded the Children's Gaucher Research Fund (CGRF) which is a grass-roots effort on the part of families who have been affected by neuronopathic Gaucher disease and the many volunteers who have joined hands to help find a cure.

GOAL: Our goal is narrowly focused; raise funds, fund scientific research on the brain, and accelerate the pace toward a treatment/ cure for neuronopathic Gaucher disease.

100% TO RESEARCH: One unique feature of the CGRF is that we have made a commitment to our donors that 100% of every dollar raised will go to medical research. For the Founders (Greg and Deborah Macres), there are no salaries or other benefits, outside of the satisfaction that one day little Gregory's legacy will be a cure. All administrative costs are paid by Greg and Deborah Macres, allowing the CGRF to assure each donor that 100% of their donation will go to medical research.

IMPORTANT FACTS: The CGRF is an approved 501 c3 tax exempt organization that each year engages in a Financial Audit by a Certified Public Accountant.

CGRF PROGRESS: Over the past fifteen years of dedicated effort and with the support of our generous donors the CGRF has raised over \$2.5 million for scientific research.

OTHER RELATED DISEASES: At inception the CGRF was motivated to find a cure for neuronopathic Gaucher disease that afflicted our son Gregory. However, research that is taking place, including the research that has been funded by the CGRF is impacting and potentially will help with research on some 26 other neuronopathic Lysosomal diseases that affect the brains in young children. Combined, the prevalence of these orphan diseases is 1:7000 births. In addition, a connection has been found between Gaucher disease and Parkinson's, making our research results of significance to Parkinson's researchers as well as Gaucher researchers. ■

WEIZMANN INSTITUTE



RANKED IN TOP 10

The Weizmann Institute of Science has been ranked 10th in an international ranking of research institutions and universities and is the only one of the top 10 to be located outside the US. The ranking is conducted by the Center for Science and Technology Studies (CWTS) of Leiden University in the Netherlands.

.....
"The CGRF has been funding research at the Weizmann Institute of Science for the past 14 years."
.....

The CWTS Leiden Ranking is based solely on numeric indicators instead of question-based surveys. That includes publishing statistics for the scientists of the various universities and how often the papers are cited by other researchers -- both of which reflect the quality of the papers. These numbers are weighted accorded to the size of the research institute or university.

According to the report, 19 percent of the research papers published by Weizmann researchers were ranked in the top 10% of scientific papers for impact. In addition, 21.4% of papers by Weizmann scientists in the life sciences and medicine were also ranked in the top 10% for impact. ■

ROBERT MCCALL

...TO GIVE IS TO BE FULFILLED



After losing our son Gregory in 1997, we wrote our families story. In it we wrote:

"Gregory taught us a new way to fulfillment.

Prior to his illness, we derived fulfillment from receiving; a new car, a hockey game, a vacation. We soon found fulfillment from giving; research, medical care, therapies. He helped us find the strength to rise to the occasion, and we soon found pleasure and fulfillment in the challenge. Our lives will be forever changed. He taught us to give, is to be fulfilled."

What we have learned since is that many other people – our volunteers - in this effort to find a cure find that ... "To give is to be fulfilled". In this newsletter, we would like to recognize and thank Robert McCall, who since inception has provided our printing needs – free of charge. In January of 2013, we decided that printing newsletters for free were enough – and that we should pay Robert for other miscellaneous printing. We thought Robert had agreed and in January we sent Robert a check for \$1,500 for the stationary and envelopes ... two weeks later the check was returned with a note. Robert refused the money ... and said he was "in it for the kids". Quite frankly we are speechless – we are appreciative – we feel a bit guilty. It is clear that for Robert "To give is to be fulfilled". ■

Greg and Deborah Macres Founders/CGRF

amazon smile



AmazonSmile is a website operated by Amazon that lets customers enjoy the same wide selection of products, low prices, and convenient shopping features as on Amazon.com. The difference is that when customers shop on AmazonSmile (smile.amazon.com), the AmazonSmile Foundation will donate 0.5% of the price of eligible purchases to the charitable organization selected by customers. You will find the Children's Gaucher Research Fund on AmazonSmile. ■

CALL FOR RESEARCH

Mechanism of neuronopathic Gaucher disease Limited to U.S. researchers

LIMITATION: United States Based Researcher/Institution

AMOUNT: \$75,000 to \$100,000

TERM: 1 Year (2016)

MORE DETAILS: Go to www.cgrf.org

For questions and submission of research proposals contact:

Raphael Schiffmann M.D., M.H., Sc.

Baylor Research Institute

Raphael.schiffmann@baylorhealth.edu

214-820-4533



ONLINE DONATIONS

can be made by visiting
www.childrensgaucher.org

OR

www.cgrf.org

All family stories can be read on the web site.

100% TO RESEARCH

You need to know:

1. The CCRF is a *legitimate* IRS approved 501 c3 non-profit organization.
2. *100% of every donation* goes to medical research.
3. We *do not* hire professional fundraising companies who keep 50% of donated funds.
4. We have talented volunteers who *donate* their time and talent for a variety of our needs.
5. All administrative costs are paid for by the *founders*.

Simply put: if you send your hard earned dollars - *It ALL goes to medical research.*

Visit our web site at:
www.childrensgaucher.org
All family stories can be
read on the website.

Contributions Payable To:
Children's Gaucher Research Fund
P.O. Box 2123
Granite Bay, California 95746-2123



Return Service Requested

8110 Warren Court
Granite Bay, CA 95746 USA
tel 916 797 3700
fax 916 797 3707
research@childrensgaucher.org



Children's Gaucher Research Fund