One Mission: End AHC!

# INSIDER'S EDGE

YOUR ALTERNATING HEMIPLEGIA OF CHILDHOOD FOUNDATION NEWSLETTER www.ahckids.org APRIL 2015

2000 Town Center ■ Suite 1900 ■ Southfield, Michigan 48075

*U.S. National Institute of Health Shares info On French Clinical Trial*

## AHC pilot study starting soon!


On March 24th, the U.S. National Institute of Health announced that a 2-year pilot study involving the effectiveness of triheptanoin oil in AHC is getting underway in France.

The clinical spectrum of Alternating Hemiplegia of Childhood (AHC) is wide and characterized by the association of permanent and paroxysmal (palsy, dystonia, ocular, epileptic, dysautonomic events) neurological events. Most AHC patients carry mutations in the ATP1A3 gene. Those paroxystic events in AHC patients with mutations in the ATP1A3 gene could be associated with a glucidic/energetic metabolism or intracerebral excitability disorder.

The investigators goal is to do a pilot study to test the effectiveness on paroxystic manifestations and the safety of triheptanoin in a small group of patients with Alternating Hemiplegia of Childhood secondary to ATP1A3 mutations.

Triheptanoin is a triglyceride, whose derivatives pass the blood - brain barrier and enhance the Krebs cycle functions. Triheptanoin could therefore allow energy supply to the brain, which is essential for the functioning of the Na+/ K+ ATPase that consumes a significant amount of energy in the brain.

The study is sponsored by the Institut National de la Santé Et de la Recherche Médicale, France and is titled, "Pilot Study, Comparative, Single-center, Randomized, Crossover, Double-blind, Against Placebo, Testing the Effectiveness of Triheptanoin Oil in Alternating Hemiplegia of Childhood."

We wish the French researchers well in their study and look forward to learning more about their work as it progresses. The NIH site with further details is: https://clinicaltrials.gov/ct2/show/record/NCT02408354

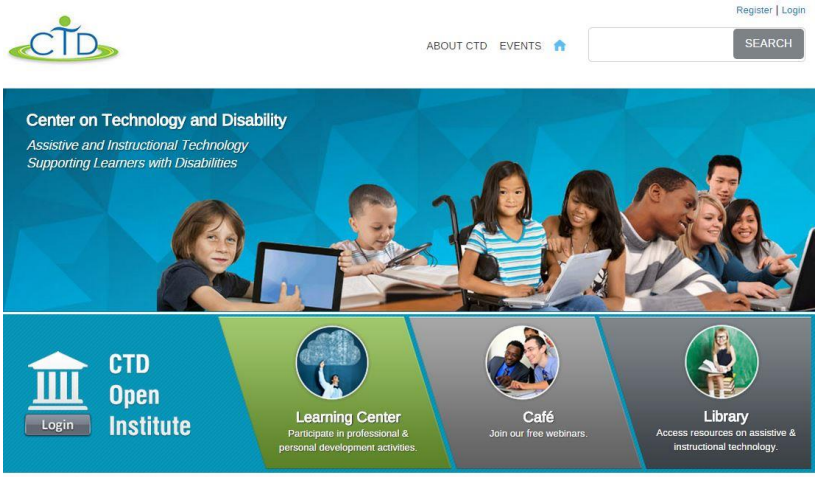
*Board of Directors' News*

## Morris earns our thanks & gratitude

Please join us in thanking Doug Morris for his years of service to the foundation as treasurer and a member of the board.

Doug added an insightful fiscal perspective to the board and had an incredible dedication to our mission. He was instrumental in establishing the foundation investment policy and bringing on a new investment firm.

We wish Doug well and look forward to working with him on new projects in the future.




*Looking for Help Just Got Easier*

# A great family resource

**The Center on Technology and Disability (CTD)** is funded by the U.S. Department of Education's Office of Special Education Programs (OSEP).

The Center is designed to increase the capacity of families to advocate for, acquire, and implement effective assistive and instructional technology (AT/IT) practices, devices, and services.

CTD has established a robust online Open Institute, through which they provide information resources, personal and professional development (PPD) activities, and universal and targeted technical assistance. The Institute provides content to parents, professionals, and other audiences in three main ways:

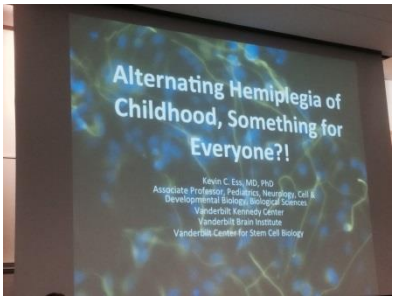
1. a Library of multi-media, multi-lingual resources;
2. a Café that offers both topical and audience-specific discussions;
3. and a Learning Center that makes available leading experts in the field.

On May 18, 2015, The Center will host a webinar titled, "Parenting a Child with Special Needs: How internet technology can help build your network of support and knowledge." Tips and resources for growing your assistive technology networks will also be shared. For more information, go to www.ctdinstitute.org.

*Vanderbilt University Highlights AHC during Grand Rounds*

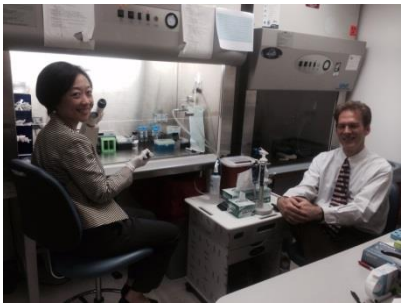
# Dr. Kevin Ess: Getting the word out on AHC

On April 9th, AHCF Director Mollie Erpenbeck journeyed to Vanderbilt University to attend a Grand Rounds presentation by Dr. Kevin Ess. The event was well attended by nearly 100 neurologists.




His presentation started with AHC history, how far they have come in such a small amount of time, what they are working on now and where they think the future will lead them. He believes it will become more personalized as the research continues.

The other excitement stemming from this visit to Vanderbilt was getting a tour of Dr. Ess' new lab and being able to see the AHC neurons thru a microscope.



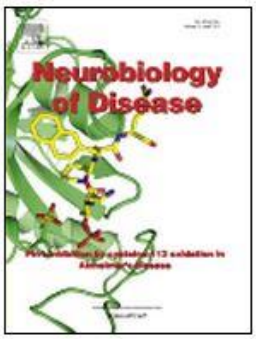
We thank Mollie for taking time out to attend this event. We also thank Dr. Ess for getting the word out on AHC.

**Thanks to everyone for helping achieve our mission of Ending AHC!**

**Words of Wisdom** No matter how long the winter, spring is sure to follow. Proverb

*Researchers Shed Light on ATP1A3 Mutations*

# Why AHC may seem like a spectrum disorder




**In the May 2015 issue of *Neurobiology of Disease*, an important article to the entire AHC community will be published.**

Authored by researchers at the Florey Institute of Neuroscience and Mental Health in Australia and from the Institute for Genomic Medicine at Columbia University in New York; this article sheds light on why patients with AHC are affected differently.

In 2012, it was discovered that mutations in the *ATP1A3* gene are the primary cause of AHC. This discussion expands on the differences in mutations within the ATP1A3 gene.

Correlations between different mutations and AHC severity were recently reported, with E815K identified in severe and D801N and G947R in milder cases. The objective of this study was to explore the molecular pathological mechanisms in AHC and to identify functional correlates for mutations associated with different levels of disease severity.

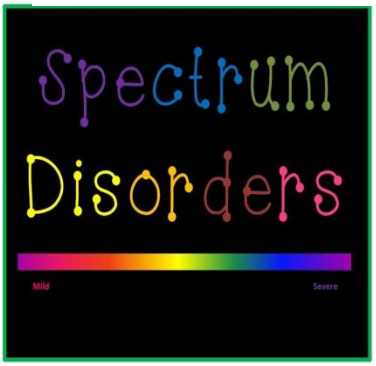
The AHC mutations examined all showed similar levels of reduction in forward cycling. Wild type forward cycling was reduced by coexpression with any mutant, indicating dominant negative interactions. Proton transport was measured and found to be selectively impaired only in E815K. Homology modeling showed that D801 and G947 lie within or near known cation binding sites while E815 is more distal. Despite its effect on proton transport, E815K was also distant from the proposed proton transport route.

Loss of forward cycling and dominant negativity are common and likely necessary pathomechanisms for AHC. In addition, loss of proton transport correlated with severity of AHC. D801N and G947R are likely to directly disrupt normal $Na^+/K^+$ binding while E815K may disrupt forward cycling and proton transport via allosteric mechanisms yet to be elucidated.

Two of the U.S. researchers responsible for this study are familiar to the AHC community. They include: Dr. Erin Heinzen and Dr. David Goldstein from Columbia University.

**Thank you for your work on this important research!**

As the full text of the article will not be published until next month, an abstract of it can be found at:
http://www.ncbi.nlm.nih.gov/pubmed/25681536




So, what is a Spectrum Disorder?

A spectrum disorder is a condition connected by subgroups that have similar symptoms that range from mild to severe.

Examples Include:
Bipolar Disorder – Fetal Alcohol Disorders – Autism –
Tourette Syndrome - Obsessive Compulsive Disorder

AHC may seem like a spectrum disorder, but it is not officially classified as one.

# Golf Outing to Benefit Alternating Hemiplegia of Childhood Foundation

## Sponsored by Terry Sharo
## For his granddaughter, Kiley Andrasco

Terry's granddaughter, Kiley, is afflicted with a rare neurological disorder called AHC (Alternating Hemiplegia of Childhood). It has affected her since birth and makes every day a challenge for both her and her family. Almost every week, she has to deal with bouts of temporary paralysis, which impairs her ability to speak, walk, and perform other functions we take for granted. There is no known cure for AHC.

### Golf Outing Details
### Register by June 3, 2015

The 4th annual golf outing will be held at beautiful Deer Creek Golf Course, located in University Park, Illinois. The course is rated 3 ½ stars by Golf Digest Magazine and continually voted one of Chicago's best places to play. The day includes 18 holes of golf and a buffet dinner for all participants.

- Date: Friday, July 31, 2015
- Time: golf at 10 am, dinner at 3 pm
- Cost for golf and dinner: $75
- Cost for dinner only: $25
- Sponsor a hole: $100
- General donation

Deer Creek Golf Course
25055 Western Avenue
University Park, IL 60484
http://deercreekgolfcourse.com

### The AHC Foundation

The Alternating Hemiplegia of Childhood Foundation raises funds to find the causes of AHC and effective treatments or cures. The foundation is funded entirely by family fundraising efforts and activities, like this golf outing. Learn more at http://www.ahckids.org.

As you can imagine, the fundraising to find treatment and a cure is incredibly important to the entire Sharo and Andrasco families. We appreciate your support in whatever way works best for you, including donations.

AHCF Foundation Classification - 501 (c) (3) 509 (a) (1)
I.D. No.. 38-3225425, DLN:(case no.) 315203063

**To register, please fill out and mail the attached registration form by June 3, 2015. For more information, contact Terry Sharo at 708-478-3011 or tsharob@att.net.**

## Registration or Donation Form, AHCF Golf Outing, Due June 3

Sponsored by Terry Sharo for his granddaughter, Kiley Andrasco

Name:

Address:

Phone number:
Email address:

How will you participate?

- ☐ Golf and dinner ($75)
- ☐ Dinner only ($25)
- ☐ Sponsor a hole ($100)
- ☐ General donation

Single participant or foursome? If foursome, please indicate captain and members.

Checks can be made out to AHCF and sent to: Terry Sharo, 10840 Crystal Creek Drive, Mokena, IL 60448

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