Shooting for a cure for HD

2011 HDSA Iowa City Hoop-A-Thon raises $7,000 to benefit HD families

Over the past month, people have been shooting hoops by the thousands for a cure for Huntington disease.

The 2011 HDSA Iowa Chapter Hoop Tour concluded on April 30 in Panora and also had stops in Storm Lake on March 19, Iowa City on March 27, and Des Moines on April 9 and Audubon on April 17. Though donations continue coming in and the final tally is still being counted, HDSA Iowa board members hope to raise or exceed last year’s $36,000 raised.

“The 2011 tour saw a lot of new faces with larger crowds, especially in Iowa City,” said HDSA Iowa Chapter President Lori Wesack.

This was the second year for the HDSA Iowa City Hoop-A-Thon, which is sponsored and organized by the UI HDSA COE. Thanks to the generosity of individual donors and local businesses, more than $7,100 was raised to support families affected by HD.

The nearly 30 percent increase in money raised was due in large part to increased participation at the event held at West High School. Forty shooters took part in this year’s free-throw shooting contest, up from 28 last year.

Overall attendance was up as well: organizers estimated between 150-200 people perused the silent auction items, bought raffle tickets, ate pizza and other concession food and took part in the cake walk and Nintendo Wii tournament.

“We want to thank the Iowa City and Eastern Iowa communities for coming out to support Iowa families affected by Huntington disease,” said HDSA Iowa City Hoop-A-Thon Co-chair Sean Thompson. “It means a lot to these families to know they’re not alone in the fight against HD.”

New to this year’s Iowa City Hoop-A-Thon were two unique performances by UI student groups. To kick off the event, the UI’s all-male a cappella group Intersection sang “The Star Spangled Banner” and Billy Joel’s “The Longest Time.” Equipped with only a few microphones and their voices, the men delighted the crowd with the harmonic performance.

Later in the day, the UI Breakers gave a dance performance. But this was no recital or waltz. The student break dancing group delighted the crowd with their acrobatic, athletic moves.

Thompson received lots of positive feedback about both performances. Look for more performances at next year’s event, he added.

“The entertainment that we had [in Iowa City] made the day go fast and was enjoyable,” Wesack said.

Another change this year was the addition of two UI public relations/event planning undergraduate interns to help plan and execute the event. Junior Kaitlein Basic and Senior Chelsea Harrison were instrumental in the improvements seen from year one to year two, Thompson said. They brought new ideas and enthusiasm to the table while gaining experience that will help them in their future career endeavors.

This year, there was also an influx of volunteers from the UI, West High School and the Iowa City community. There were more than 50 volunteers on hand during the event.

All the money raised during the 2011 Iowa Hoop Tour will fund HDSA patient care services such as HD support groups, research and HD advocacy.
Davidson lecture addresses HD gene therapy

By Anne Leserman
UI HDSA COE Coordinator

A UI researcher who studies silencing the Huntington disease gene expansion to preserve brain cells was honored earlier this year with a very prominent speaking engagement.

Beverly Davidson, Ph.D., an internationally recognized expert on inherited brain diseases and gene therapies, delivered the UI’s 28th Annual Presidential Lecture on Feb. 27, titled “Genes as Medicine: Molecular Therapy Comes of Age.” The presidential lecture series allows the community a chance to hear updates from the UI’s most talented faculty. Davidson, a professor of internal medicine, neurology and molecular physiology and biophysics at the UI Carver College of Medicine, is a pioneer in the development of novel therapies for fatal, inherited brain diseases.

Davidson and her colleagues have developed gene-replacement and gene-silencing techniques to treat HD. Both methods have proven successful in mouse models. She is now testing them in larger animal models and hopes to move her work to human clinical trials.

Davidson contrasted the progress of traditional pharmaceutical therapies with that of gene therapy. Because of the slow progress of bringing drugs to patients through the clinical trials pipeline, she suggested gene therapy as a faster way to treat those with neurodegenerative disorders.

Davidson presented a timeline of gene therapy research that began in the 1960s, with the first trial taking place in 1980. Since that time, scientists have learned more about using viruses to transfer genetic information.

The processes of gene silencing or adding to a gene involves packaging genetic information into a virus. Scientists know that viruses do an effective job of transferring information inside cells. Viruses affect many different cell types and are an excellent tool to study gene expression.

Davidson is looking at both recessive and dominant inherited diseases. With a recessive disorder, it is necessary to add genetic information back into the cell that is missing the information that causes the disorder. In a dominant disorder (like HD), it is necessary to take away from the cell what is “bad” or mutant. This, according to Davidson, is a more complicated process.

If the neurons are still functional, negative symptoms can show significant improvement after gene therapy. The use of a common virus placed in a specific section of the brain can inhibit or reduce the mutant RNA interference (RNAi). This therapy, often called gene silencing, does not shut off the bad gene but rather “turns it down” and can reverse symptoms.

Davidson is excited by positive gene therapy trials of adrenoleukodystrophy (ADL: a recessive childhood disorder causing blindness) and hopes to have a clinical trial available to a select group of symptomatic HD patients sometime late in 2012.

Dimebon not effective for HD

The investigational drug dimebon is ineffective at improving cognition (thinking ability) in patients with HD, according to results from the HORIZON trial released in April.

Results from the trial involving over 400 participants with HD from 64 international trial sites (including the UI HDSA COE) showed no significant benefit for those taking dimebon over those taking placebo on two cognitive assessments, according to a press release from drug maker Medivation.

“These results are very disappointing, but we are grateful to the families who participated in this important study,” said Leigh Beglinger, Ph.D., HORIZON site investigator at the UI. “It allowed us to answer the question about whether dimebon would be helpful for thinking in patients with HD.

“This study also demonstrated the overwhelming success of rapid enrollment in a clinical trial, which is very encouraging for future drug studies.”

These results signal the end of development of dimebon for HD and the end of the open-label extension study for HORIZON participants.

HD Support Groups:

Des Moines
Valley View Village Conference Room
2571 Guthrie Avenue
Third Sunday at 1:30 p.m.
Mark Hillenbrand
(515) 208-3511

Omaha, Nebraska
Perkins Restaurant
108 L. Street
Second Monday at 6 p.m.
Cathy McNeil
(402) 537-0739

Iowa City
University of Iowa Hospitals and Clinics
Della Ruppert Conference Room
Fourth Sunday at 1 p.m.
Anne Leserman
(319) 353-4307

From the editor
Professionally and personally, I want to extend sincere thanks to everyone who helped make the 2011 HDSA Iowa City Hoop-A-Thon and the entire 2011 Iowa Hoop Tour a success! As is always the case, feel free to contact me with feedback at sean-thompson@uiowa.edu or (319) 384-4094. Also, if you want to write something for HIND-Sight, please contact me with your ideas!

Sean Thompson, HIND-Sight editor
Paulsen receives UI achievement award

Don’t remove the compassion from the cause, Jane Paulsen, Ph.D., told a crowd assembled at the UI Old Capitol Senate Chamber for the Celebration of Excellence and Achievement Among Women on April 5.

Paulsen was one of two winners of the Distinguished Achievement Award, which is given to staff and faculty who have made outstanding contributions to their fields and serve as role models and mentors for girls and women.

As UI HDSA COE co-director and principal investigator of the PREDICT-HD study, Paulsen’s cause is HD research and care. She’s sought and received more than $850 million in grant funding for HD research, which is the largest amount ever secured for the disease.

“Her work in Huntington disease has been absolutely remarkable and groundbreaking,” said Robert G. Robinson, M.D., professor and head of the UI Carver College of Medicine’s Department of Psychiatry.

Paulsen joins several prominent past recipients of the award, including Mary Hendrix, current President and Scientific Director of the Children’s Memorial Research Center in Chicago, and C. Vivian Stringer, former UI Women’s Basketball head coach and member of the Basketball Hall of Fame.

May is HD Awareness Month

May is HD Awareness Month, and the UI HDSA COE is spreading awareness with an informational display at the UI Hospitals and Clinics in Iowa City on May 25 from 11:30 a.m. to 1 p.m.

Staff from the COE will be on hand to provide information and answer questions in the Fountain Lobby of UIHC. If you live in the Iowa City area or work at UIHC, stop by and see us!

As part of HD Awareness Month, HDSA is launching “Let’s Talk About HD” in order to get more people talking about HD and the HD Parity Act currently being considered in Congress. Each week in May, HDSA will have a different call to action, culminating with National Call-in Day to Congress on May 25.

For more information on the UI HDSA Center of Excellence, visit www.hdsa.org.

Translating research into treatment

By Eric Epping, M.D., Ph.D.
Assistant Professor, UI Dept. of Psychiatry

Despite significant progress in understanding Huntington disease, we still do not have any treatments that stop or prevent the illness. The past few years have seen an increased effort in attempts at “translational research,” research that translates research findings into new treatments.

Dr. Christine Klein and her coauthors recently described current efforts in translational HD research in Archives of Neurology. To develop a new treatment, specific biological pathways causing the disease must be studied in cells, animals and humans. New compounds or molecules must be identified or created that alter the disease-causing pathway. And ways to measure how new therapies slow or ideally prevent HD symptoms need to be developed.

The PREDICT-HD study (which is administered at the UI HDSA COE) is looking at individuals with the HD gene mutation before onset of symptoms. As we follow their change over time, we start to better understand the symptoms that develop. We collect information including motor function, thinking and behavior.

Brain scans allow the ability to identify changes in the brain associated with the development of symptoms. From cells in the blood, we may be able to identify DNA sequence changes other than the HD gene mutation that might contribute to specific symptoms. We can also measure the levels of different molecules in the blood called “biomarkers” that are related to changes in symptoms over time.

The collection of information from all these areas in PREDICT-HD has provided the opportunity for researchers from different disciplines to identify the most important aspects of the disease that need to be treated. They will determine what needs to be measured in future clinical trials of new therapies, which will hopefully be tested in humans in the near future.

Results from PREDICT-HD will also contribute to the process of finding new treatments. The study fills this critical need for translational research and will contribute to the ultimate goal of finding a cure for HD.

Trials currently enrolling at the UI HDSA COE

- PREDICT-HD: Observational study
- COHORT: Observational study
- 2CARE: Clinical drug trial
- CREST-E: Clinical drug trial
- CIT-HD: Clinical drug trial

For more info on these trials, email Anne Leserman at anne-leserman@uiowa.edu
Despite having a comparable brain size to other highly evolved animals, sheep have been historically perceived as unintelligent and were therefore not considered to be good animal models for studying diseases that affect learning and memory.

However, new research recently published in the journal *PLoS ONE* shows sheep are indeed smarter than previously believed. Researchers are hopeful the animals will prove useful for research into diseases that impair the cognitive (thinking) abilities of patients with neurological disorders.

Professor Jenny Morton, a University of Cambridge researcher and co-author on the published article, says a new line of genetically modified sheep developed by researchers in New Zealand and Australia which carries the defective gene for a neurological disorder has given scientists unique opportunities to research treatments. However, to test the cognitive function in these sheep, Morton says we first need to understand how the brain works in a normal sheep.

The scientists posed a series of challenging tests similar to ones used to assess cognitive impairments of humans suffering from neurological disorders. The tests for the sheep involved making choices that were cued by different colored or shaped objects, with feed as an incentive. These were each mastered in turn by the sheep. For example, in the first and easiest trial the sheep was presented with a blue bucket containing food and an empty yellow bucket. After a few trials they went automatically to the blue bucket.

Previous research has shown that sheep have good memories for faces. This study shows that they also can discriminate color and shape as separate dimensions.

“The sheep were very amenable to the testing,” said Morton, who conducted the study while she was a Royal Society Leverhulme Senior Research Fellow. “They have an agreeable disposition which lends itself well to being used for such experiments.”

The next stage of the research will be to test the genetically modified sheep, to see if, like human patients, they also have cognitive deficits.

To read the full *PLoS ONE* article by Morton and Laura Avanzo, go to [www.plosone.org](http://www.plosone.org) and search for “Executive Decision-Making in the Domestic Sheep.”