

# HIND-Sight

Huntington's Information &  
New Discoveries

HDSA Center of Excellence  
University of Iowa

## BIOMARKERS

A biomarker is a specific physical trait used to measure or indicate the effects or progress of a disease, illness or condition.

The search continues for biomarkers that measure the progression of disease and improvement via various treatments and the use of biomarkers has become part of medical practice. For example, we measure the risk for cardiovascular disease by checking blood pressure and cholesterol, and the PSA test (Prostate Specific Antigen) assesses prostate cancer risk and disease status. Researchers continue to look for minimally evasive (and at times inexpensive) procedures to understand disease progression.

Finding HD biomarkers means that fewer people will be needed for clinical trials, and that drugs can be tested more quickly. The hope is to find treatments to delay disease onset or to extend quality and quantity of life for the thousands affected by HD. The Huntington Study Group's (HSG) Predict-HD cohort is the largest comprehensive study of preclinical (no motor symptoms) carriers of the HD gene. Predict-HD is a multi site, international, longitudinal study that is reporting on more than 1000 pa-

tients over 5 + years. The focus of the study evaluates a period before the emergence of definitive motor abnormalities in individuals who have the mutated HD gene. This period is critical because the motor phenotype (visual characteristics) is currently the strongest marker of progression and motor symptoms will continue as the comparison for other potential markers. Below are examples of the published studies on biomarkers of HD.

1. American Journal of Medical Genetics Part B: Neuropsychiatric Genetics 2007 Jun 5;144(4):574-7

This study shows a relationship between HD mutation and depleted levels of the protein, brain-derived neurotrophic factor (BDNF) in the blood of patients, suggesting it may provide a useful clinical biomarker.

2. Proc Natl Acad Sci U S A. 2005 Aug 2;102(31):11023-8.

Researchers from the MassGeneral Institute for Neurodegenerative Disorders (MIND) found a set of genes that are expressed at higher levels in blood samples from people with HD than in samples from controls. The expression of these genes also rose as the disease progressed from asymptomatic to symptomatic stage.

3. NEUROLOGY 2006;67:485-487

The authors examined eye movement (oculomotor) function to identify a biomarker of disease progression in genetically confirmed preclinical and early clinical HD participants. They found that abnormalities in voluntary rapid eye movements were characteristic of preclinical HD. They also found that delayed and reflexive eye movements were demonstrated in clinical (but not preclinical) HD. These eye movement measures accordingly provide a biomarker of disease progression in both pre-clinical and early clinical stages of HD. Eye movement abnormalities are potentially good biomarkers, because they are physical traits of disease progression. Saccades appear to be a sensitive biomarker to assist researchers in understanding early clinical stages of HD.

The search for biomarkers continues. Thank you for your continued research participation.



## GINA Passes

HDSA is very happy to announce that on the afternoon of April 24 the U.S. Senate voted 95-0 in favor of the Genetic Information Nondiscrimination Act, or GINA (S. 358). The legislation aims to protect people with or at risk for a genetic disease from discrimination in the workplace or by a health insurance provider. This bill clearly protects people who participate in clinical trials from discrimination as well.

We welcome this victory, as it has been more than a dozen years in the making. Thirteen years ago the first version of GINA was introduced into the House by Louis Slaughter, a democratic Representative from NY. It has reappeared in every Congress since. Despite broad support for the bill, GINA was never passed in both the House and the Senate during the same session. Many feared the bill was destined for that familiar fate in this Congress when action on GINA was stalled in the Senate after it passed in the House in April of 2007 by a vote of 420-3. Fortunately for all of us, that was not the case.

Over the past year, genetic disease organizations, medical professionals and Americans across the country have pressured the Senate to bring GINA to a vote. The result was an impressive amount of support for the bill and momentum toward seeing it passed. At the time of the vote, GINA had 46 sponsors. Everyone who talked to their Congress members about the need for this bill and encouraged their support

secured this victory.

The passage of GINA will greatly benefit people living with or at risk for a genetic disease. For years, in the absence of federal protections against genetic discrimination, people have lived in fear of suffering discrimination both in the workplace and from their insurance providers. This fear led people to be less proactive about managing their health and to opt out of participation in clinical trials and research studies that had the potential to bring new therapies for their disease. There were many instances where people who did reveal their gene status or risk for an inherited disease were bypassed for promotions, fired from work, subjected to higher health insurance premiums or experienced full termination of their benefits.

Some state laws provide limited protection from such abuse, but the passage of GINA provides the first comprehensive, federal protection from such discrimination from which all Americans will benefit.

GINA was signed into law by President Bush on May 21, 2008 and will go into effect May 21, 2009 or the date of the group policy after May 2009.

## HDSA National Convention

Pittsburgh, June 6-8, 2008

It was a very big and successful HDSA meeting in Pittsburgh, June 6-8, 2008 with approximately 700 people attending the events. There were many newcomers this year eager to hear updates on research and information on new and upcoming clinical trials. The message

of the meeting this year was the need for volunteers to participate in research. The relationship between the researchers and the HD community has always been one of mutual need.

The University of Iowa Center of Excellence staff was busy recruiting and informing attendees about research options. Drs. Jane Paulsen and Kevin Duff were again very popular speakers at this convention. The highlight for the Iowa staff was the award given to Dr. Jane Paulsen from HDSA for her excellence in research for the PREDICT project. The staff was excited and proud to accept her well deserved award.

### HD Support Groups:

#### DES MOINES

Valley View Village Conference  
2571 Guthrie Ave  
3rd Sunday at 1:30 pm  
Mark Hillenbrand  
(515) 208-3511

#### OMAHA, Nebraska

Village Inn Restaurant  
78th and Dodge  
2nd Monday at 6:00 pm  
Cathy McNeil  
(402) 537-0739

#### IOWA CITY

University of Iowa Hospitals and Clinics  
Della Ruppert Conference Room  
6th floor, elevator H  
4th Sunday at 1:00 pm  
Anne Leserman  
(319) 353-4307

#### FONDA

Fonda Nursing and Rehab  
607 Queen  
2nd Sunday 1:30 pm  
Wilma Frey  
(712) 288-4441

## Save the Date

The Celebration of Hope Dinner will be held on November 1, 2008 at the Hotel Fort Des Moines in Des Moines, Iowa. Stay tuned for more details about times and costs. This year we will also plan to hold the Iowa Conference in conjunction with the Celebration of Hope Gala to help with travel costs for those wanting to attend both events.



Iowa  
Celebration of Hope Dinner

## RESEARCH



### fMRI

In this study, functional Magnetic Resonance Imaging (fMRI) will be used to examine brain changes associated with HD during cognitive tasks. **Participants currently enrolled in the PREDICT-HD study are being invited to participate in this fMRI study at either the University of Iowa or the Cleveland Clinic in Cleveland, Ohio.** Participants will undergo fMRI scanning for three visits with 12 months between each visit. This 5-6 hour study takes place over the course of two days. Compensation is available. Questions? Please contact Andrew Juhl by email at [andrew-juhl@uiowa.edu](mailto:andrew-juhl@uiowa.edu) or (319) 353-5451.

**RESEARCH**

## 2CARE

Coenzyme Q10 in Huntington's Disease

The Huntington Study Group (HSG), under the direction of Merit Cudkowicz M.D., M.Sc. (Massachusetts General Hospital), Michael McDermott Ph.D. and Karl Kieburtz M.D. M.P.H. (University of Rochester), is conducting a multi-center, randomized, double-blind, placebo-controlled study of coenzyme Q10 (CoQ) in individuals with HD to assess the effects of CoQ on the progression of functional decline in HD, as well as the long-term safety and tolerability at the dosage studied. Coenzyme Q10, a naturally occurring substance in the body, is available for purchase over the counter as a nutritional supplement. CoQ is being studied as an investigational drug at a higher dosage than is currently available for purchase.

CoQ has been used to treat a variety of human disorders, including those involving the heart and circulatory system, cancer, muscular dystrophy, a muscle coordination disorder called ataxia, and other disorders. The most marked results seem to have occurred in patients with a preexisting inherited deficiency of CoQ, although the studies reporting this information are limited because they were not controlled clinical trials. However, no serious safety issues have been reported. Recent preliminary studies of CoQ in neurologic disorders such as Parkinson's disease, Amyotrophic Lateral Sclerosis, and HD confirm the safety and tolerability of CoQ in daily dosages up to, including, and exceeding the

dosage planned for the 2CARE study when used for a short time.

The 2CARE study will be the largest therapeutic clinical trial to date in HD. Six hundred eight research participants will be enrolled at approximately forty-six clinical sites in the US, Canada, and Australia. For information about participating at the University of Iowa, please contact William H. Adams at 319-353-4411 or email [william-h-adams@uiowa.edu](mailto:william-h-adams@uiowa.edu).

## RESEARCH



### Eye Tracking:

Establishing a Biomarker for HD

Eye Tracking is a study designed to utilize advanced eye-tracking methods to establish a biomarker for HD by investigating subtle motor and cognitive eye tracking problems in individuals tested for HD. Participants 18 years of age or older who have completed an HD gene test are invited to participate in this 60 minute eye tracking session. Participants will include people who have tested both positive and negative for the HD gene. Compensation is available to study participants. For more information call Anne Leserman at (319)353-4307 or email [anne-leserman@uiowa.edu](mailto:anne-leserman@uiowa.edu).

**RESEARCH  
RESEARCH**

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## Some Rules of Life

- 1. Wake up. Show up. Pay attention.**
- 2. Be happy and have fun!** (Life is a trip- enjoy the journey)
- 3. Learn, master and play by the rules.**
- 4. Get an education.** (Knowledge and wisdom are the key.)
- 5. Work hard. Work smart. Never quit.** (Nothing good comes easy)
- 6. The “Circle Theory” is in effect.** (Integrity. Never lie, cheat or steal, especially yourself.)
- 7. Know your weaknesses and overcome them.** (Power is when you ask for help and use it.)
- 8. Learn a skill, trade or profession you love and master it.**
- 9. Deadly sins.** (Pride, Envy, Anger, Sloth, Greed, Gluttony, Lust, Alcohol/Drugs, Doing wrong when you KNOW right.)
- 10. Don’t judge and learn how to forgive.** (Surrender to win.)
- 11. Never sweat the small stuff.** (Most of it is small stuff.)
- 12. Treat all with dignity and respect.** (Especially yourself.)
- 13. Acquire patience and serenity.** (Learn to be still, be quiet, be at peace and meditate.)
- 14. Make a negative a positive and learn from the past.**
- 15. To thine own self be true: Develop self discipline.** (Do what you’re supposed to do, not what you want to do, until you’re supposed to do is what you want to do.)
- 16. YOU GOTTA BELIEVE!**