Nancy Davis Foundation for Multiple Sclerosis

We are dedicated to the treatment and ultimate cure of MS. Funding research is the core focus of the Foundation and all funds raised support our Center Without Walls program, a selected network of the nation's top MS research centers. This nationwide collaboration of physicians and scientists are on the cutting-edge of innovative research programs, working as a team on therapeutic approaches to eradicate MS. In addition to combating MS through research in a clinical environment, we hope to increase awareness by educating the public about this mystifying disease.

Winter 2009

Contents

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Nancy Davis Foundation
for Multiple Sclerosis,
The Race to Erase MS

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www.erasems.org

"Rock to Erase MS" May 2009

Co-Chairs Nancy Davis and Tommy Hilfiger celebrated the 16th Anniversary of the Race to Erase MS with a thrilling performance by the Eagles, Michelle Branch and David Osmond, with host Mario Lopez and special celebrity presenters Jewel, Blair Underwood, Teri Garr, and the cast of The Doctors. Mayor Villaraigosa gave a special honor to Nancy Davis and Tommy Hilfiger. The event, themed "Rock to Erase MS", took place on Friday, May 8th at the Hyatt Regency Century Plaza and raised over two million dollars for multiple sclerosis research thanks to a most generous group of supporters. Tommy Hilfiger Corporation, EMD Serono, Associated Television International, American Airlines, Lamborghini, and the Hyatt Regency Century Plaza all contributed to the tremendous funds raised to support MS research. A special thank you to the Brass Family Foundation and The Crazy Merchant, Inc.

Eagles Live Performance

Nancy Davis, Tommy and Dee Hilfiger and Ken Rickel

The amazing dancers from "Dancing with the Stars" led by Louis Van Amstel kicked off the evening and were followed by pop and country sensation Michelle Branch, a spectacular live performance by the legendary Eagles, and an emotional performance by David Osmond. The show was graciously produced by Associated Television International.

Michelle Branch

Our event sponsors were truly instrumental in making the Race to Erase MS an electrifying evening. The extraordinary and breathtaking orange floral arrangements were generously donated by Marks Garden. Mindy Weiss, well known event designer, decorated the ballroom in vibrant orange to reflect the theme of the Nancy Davis Foundation "Orange You Happy To Erase MS" campaign. We want to thank our sponsors Absolut, Fiji Water, Bodega Wine Bar, and Frederic Fekkai and MAC, who created the amazing hair and makeup for our celebrity presenters.

Nancy O'Dell was our live auctioneer and did an amazing job in helping to raise much needed funds at the night's exciting live auction. The high-energy auction featured a spectacular list of luxury

(RACE continued on Page 15)

Orange you Happy to Erase MS

Join us during our Month of May Campaign!

Thank You to Our 2009 Supporters

Alice + Olivia, Butterfly Dropout, Dermastore.com, EBOOST, Featherheads!, Flowers 4 MS, Lisa Hoffman Beauty, Cosmetic Industries Inc., Neil Lane for ARACADE, Peace & Love Jewelry by Nancy Davis, The Sports Club, Tommy Hilfiger, Tory Burch, Zaza Collection

Buy your official shirt and bracelet today! Shop online at www.erasems.org

Make sure to visit us for new product during May 2010 and propel us one step closer to a cure for MS by shopping online!

For more information contact us at 310-440-4842 or info@erasems.org

Want to help us raise money by participating as a donor?

Join us in our fight by selling product on behalf of the Nancy Davis Foundation for MS during the month of May and propel us one step closer to finding a cure.

Proceeds from the sale of your fabulous product will support our Center Without Walls program to ERASE MS.

Contact us at 310-440-4842 or visit our website at www.erasems.org for more details.

Message from Nancy Davis

President and Founder

"The amazing doctors that are part of our Center Without Walls program have brought us to the brink of discovering the cause and a cure for this disease. Our newsletter is an educational forum to learn about the breakthrough discoveries these brilliant research scientists have accomplished this past year. I truly believe we must continue to push and fight to win this race against multiple sclerosis.

With this belief in 2008 we began our first MS month of May awareness campaign, Orange You Happy to Erase MS, utilizing the vibrant color of orange which we feel symbolizes health and hope. I am thrilled at the fabulous response we had this past May and thank you to all of our participants that helped us raise important funds for MS research. make sure to visit our online shop at www.erasems.org and we look to all of our supporters who will help make May 2010 even more powerful in raising awareness.

The Center Without Walls commitment as a team to find a cure for MS is an inspiration to all of us, and I am so grateful for their diligent work. It is remarkable how the face of MS has significantly changed in the past seventeen years to help stop the progression of this disease. A cure is so much closer today than I could have ever imagined . Thank you to everyone for your generosity and continued commitment to help us realize our dream and find a cure for MS"

Nancy Davis

Annual Multiple Sclerosis Forum

May 9, 2009

Claudia Curry Hill, Dr. Adam Kaplan, Dr. Emmanuelle Waubant

David Osmond speaking about his experience with MS

Once a year the general public, MS patients, families, and friends are invited to attend the Nancy Davis Foundation annual MS Forum, an open discussion in which the distinguished doctors from the Center Without Walls program share advances in ground breaking research. Event attendees have the unique opportunity to ask questions and to speak directly to top MS research scientists. This year the MS Forum featured the cast of "The Doctors" as presenters and a touching musical performance by David Osmond, son of Alan Osmond. David's own personal struggle with multiple sclerosis was very inspiring to everyone who attended the event.

Nancy Davis, Shemar Moore, Teri Garr, Marilyn Moore

We would like to thank our sponsors EMD Serono, Hyatt Regency Century Plaza, Fiji Water, POM Wonderful, and Clementine's for their invaluable donations towards this very important educational opportunity which is free and open to the public. If you were unable to attend our forum but would like a copy of the forum on DVD, please contact (310) 440-4842.

Panelists and Presenters

Nancy Davis and Cindy Locke

Forum and Panel

Cast of "The Doctors" with Loni Anderson

Nancy Davis, Kurt Knutsson, Matt Rosler

Pinkberry to Erase MS!

September 26, 2009

On September 12, 2009 we hosted a fabulous fundraiser with Pinkberry Frozen Yogurt in the Westfield Century City Mall. For the entire day, 15% of each purchase was donated to the Nancy Davis Foundation for MS.

We loved that all the Pinkberry employees sported our Orange Tees for the event! Thank you to everyone who came out to support us – it was a huge success!

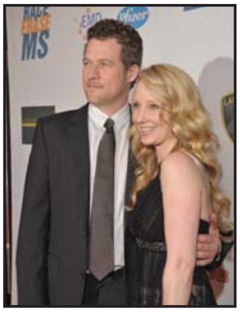
photo gallery: *Rock to Erase MS*


Dustin Hoffman
and David Osmond


Ken Rickel, Nancy Davis Rickel,
Isabella and Mariella Rickel


Eagles


Tommy Hilfiger, Mayor Villaraigosa
and Nancy Davis


James Tupper
and Anne Heche


David McKenzie, Nancy Davis
and Laura McKenzie


Tommy and Dee Hilfiger


Bill MacMillan
and Nancy Davis


Carly Weinstein, Shaleen Davidson, David
Horowitz, Dan Davidson, Alison Butterfield


Katie and AJ Brass


Tommy Hilfiger, Nancy Davis,
and Rickey Minor


Kym Gold-Lubell and Guest with
Lamborghini


Keith and Kirsten
Sarkisian


Nancy O'Dell, Nancy Davis,
and Jewel


Jon Lovitz and Guest,
Lynn Palmer, Tawny Sanders

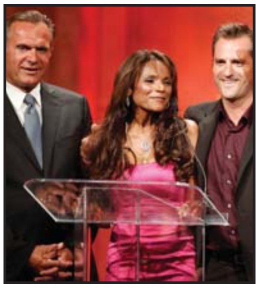

Alex and Arda
Yemenidjian


Nan Forte, Nancy Davis
and Steve Biale


Debbie and Jimmy Lustig


Courtney Mazza, Mario Lopez,
Kim Kardashian and Reggie Bush


Debra Eaton, Sherry Corday
and Guests


"The Doctors"


Nancy Davis
and Stephen Pal


Angie Harmon, Ashley Groussman
Dana Davis, Andrea Groussman


Melissa George and
Barbara Davis


Gelila and Wolfgang Puck and
Sabine Niederberghaus-Lesavoy


Nancy Davis and
Lyndi Hirsch

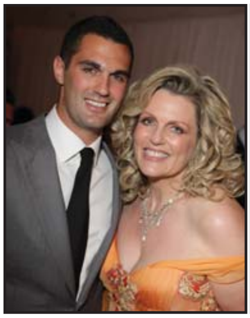

Jennifer Gardner and Brooke Lande


Lisa Hoffman, Nancy Davis, and Dustin Hoffman


Jerry Sanders and Susan Montgomery


Tama Klosek, Anne Heche, James Tupper and Katie Brass


Brandon Davis and Nancy Davis


Alex Davis and Nancy Davis


Teri Garr


Richard Steinmetz, Caroline Hinsey, Lynn Palmer and Jimmy Lustig

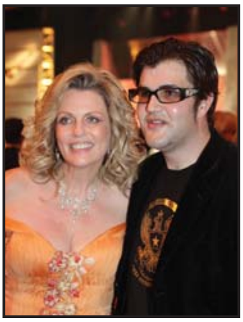

Nancy Davis and Avril Lavigne


Anna Romano and Guests


Darrell and Debbie Pattillo


Nancy Davis, Bill Perkins, Ken Rickel, Stephanie Perkins


Michael Utz, Kim Kemper and Sean Corcoran


Nancy Davis and Jason Davis


Anne Shannon Cassidy and Nancy Davis


Jessica Jacobe and Adam Mattingly


Paul and Lynn Palmer


Bill Brinkerhoff, Juliette Brinkerhoff, Alexis MacMillan, Christina Brinkerhoff


Nia Vardalos in Lamborghini


Pat and Dean Singleton


Kristin Cavallari


Clare Driscoll, Erin Lampel, Lisa Fitzmaurice, Diana Meyer, Sandy Ageloff, Kim Mendoza


Kathy Hilton and Nancy Davis


Carmel and Ryan Geise


Karen Denise, Nancy Davis and Rickey Minor

Center Without Walls Program Multiple Sclerosis Research Update

The Nancy Davis Center Without Walls (NDCWW) is currently made up of seven groups with complementary expertise in multiple sclerosis (MS) research. The NDCWW exchanges scientific information and collaborates at multiple levels. Several new and exciting scientific achievements in the past year have continued to fuel the NDCWW's commitment to find a cure for MS. Scientific meetings provide an open forum for discussion and presentation of novel ideas and findings. Centers with specific expertise provide valuable support to others, with each having a unique background. This constant exchange process is nurturing an outstandingly rich research activity. The specific scientific accomplishments of individual centers are contained in the individual reports. The highlights are presented below and details to some of the summaries can be found on our website at http://www.erasems.org/center-without-walls/.

YALE MULTIPLE SCLEROSIS PROGRAM:

The goal of MS research at Yale is to advance neurorehabilitation in MS through novel molecular and cellular approaches that will provide neuroprotection and neural repair, to preserve and restore function in people with nervous system disorders. Our recent progress includes:

1. Showing that bone marrow-derived stem cells support remyelination: Our group is attempting to demonstrate that bone marrow-derived stem cells, delivered intravenously, support remyelination within injured spinal cord in rodent animal models and non-human primates. This study brings us closer to novel stem cell-based therapies for MS.

2. Demonstrating that human bone marrow-derived stem cells improve functional outcome in neurologic diseases: We have demonstrated that human bone marrow-derived stem cells (hMSCs) improve functional outcome in stroke models. We now plan studies on neuroprotection and repair by hMSCs and olfactory ensheathing cells in models of MS. These studies will provide basis for human clinical studies.

3. Confirming that sodium channels play an important role in immune cells in MS: We are involved in delineating the role of sodium channels in immune cells in MS. MS arises, in part, from immune attack on myelin and neurons. Macrophages and microglia are two cell types that participate in this attack. We have made novel findings that sodium channels are present in and regulate the function of macrophages and microglia. This opens up the possibility of finding new therapies that will halt the inflammatory assault on the nervous system in MS.

4. Testing promising therapies in clinical trials: Our clinical program provides care to a large number of patients with MS and addresses complex medical problems, irrespective of their economic background.

HARVARD MEDICAL SCHOOL:

In the past year and throughout the next, we are:

1. Continuing to develop new blood tests for multiple sclerosis: It is generally believed that MS is a disease in which white blood cells go from the bloodstream into the brain and cause damage. A major goal of MS research is a blood test that could be used to measure the abnormal white blood cells and use this blood test as a basis for therapy and monitoring. At the Harvard Center, we continue to work on the development of new blood tests. In the past year, we have identified a serum marker for MS that can be carried out on a few drops of frozen blood and a marker that may be able to distinguish relapsing-remitting from progressive phases of the disease.

2. Continuing to advance MRI research: MRI has been a major advance in MS because it allows us to see the disease process in patients and to follow the disease progression and response to therapy: In the past year, we continued working to develop new and sophisticated ways to measure the MS process by MRI and are now studying what MS looks like on 3 Tesla imaging which is more powerful than 1.5 Tesla imaging. We continue to study changes in the gray matter of the brain, which may be better linked to disability.

3. Confirming the CLIMB natural history study: One of our major goals is to find a cure for MS. In order to do this, we must learn how people with MS are doing in the new era of treatment and MRI imaging. Towards this end we have established a natural history study called CLIMB (Comprehensive Longitudinal Investigation of Multiple Sclerosis at Brigham and Women's Hospital) in which we obtain yearly neurologic exams, MRI scans, blood tests, cognitive testing and quality of life assessments.

4. Investigating the role of neural stem cells and neuroprotection in MS: A population of cells exists in the central nervous system of adults capable of self renewal and repair. They are neural stem cells and have the capability of becoming astrocytes, neurons, and myelin forming cells (oligodendrocytes). We are studying how these cells regenerate in the animal model of MS, called experiment allergic encephalomyelitis and studying compounds to induce them. We are also studying new compounds that can protect the nerve cells from being damaged in this animal model and may be applicable to the progressive forms of MS.

5. Investigating new MS drugs: Oral Anti-CD3: One of our major goals is to find oral therapies for MS. Our lead drug in this area is using a monoclonal antibody that is usually given intravenously that we found acts orally. We have now treated normal subjects and get strong immune effects. This is an exciting result and we plan to dose MS patients in the coming year.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO (UCSF):

Understanding the genetic events leading to MS is key to defining the basic underlying etiology of this disease. However, despite intensive long-standing efforts by many research groups across the globe, the knowledge of MS genetics remains incomplete. We believe that the availability of more efficient tools in molecular genetics together with a growing understanding of the landscape structure of the human genome, provide us with a new experimental paradigm for the deconstruction of this complex problem. In light of clinical and locus heterogeneity as well as modest individual gene effects, achieving adequate statistical power constitutes an important requisite to generate unequivocal results. Therefore, a large and well-characterized dataset is fundamental for the success of genetic studies in MS. Our recent progress includes:

1. Collecting large numbers of samples: To achieve our research objectives, we collect blood samples to extract genetic material from a large number of families with one or more affected individuals. By analyzing their genetic makeup, we will be able to understand the rules of MS inheritance, and consequently define the basic etiology of MS, improve risk assessment, and influence therapeutics.

2. Completing the MS genetics map: The UCSF MS Genetics Group, a founding member of the International MS Genetics Consortium (IMSGC), has brought together leading scientific groups worldwide to advance MS genetics research and to share valuable resources. A genome-wide association study was carried out and published in late 2007 by the UCSF team in conjunction with the IMSGC. We identified the Interleukin-7 Receptor (IL-7R), the Interelukin-2 Receptor (IL-2R) and the Lymphocyte Function-Associated Antigen 3 (LFA3 - also known as CD58) as susceptibility

(CWW continued on Page 8)

Vitamin D and Multiple Sclerosis

Emmanuelle Waubant, MD, PhD, UCSF

The susceptibility to develop MS appears to be mediated by genetic and environmental risk factors, and their yet to be determined interactions. The exact nature of those risk factors, and how they mediate MS onset remain to be elucidated. Several recent reports suggest there have been an increased number of new MS cases in various parts of the world. These findings have refocused researchers' attention on changes that have occurred in the environment over the past 50 years and has prompted a renewed interest in the possible role of vitamin D and sun exposure in MS processes. The recommended daily dose of vitamin D is 1000 I.U. per day.

Vitamin D is an important vitamin that helps maintaining not only normal bone health, but also appears to have a substantial impact on the immune response. One gets vitamin D both through sun exposure and food. It has been shown that decreased sun exposure early in life is associated with a modest increase in the risk to develop MS. In addition, patients with MS are often found to have low vitamin D levels in their blood, although it is likely that this is in part due to decreased mobility resulting in lesser exposure to sunlight. Some preliminary data obtained in part by some of the Nancy Davis centers suggest that patients with low vitamin D levels may have a higher relapse rate.

Finally, a small study has suggested that giving oral vitamin D may decrease MS activity measured on brain MRI scans. This needs to be confirmed in a larger study. Because it is unclear whether vitamin D truly affects MS course, and also because over dosing on vitamin D can have serious health consequences, physicians often recommend measuring serum vitamin D levels before considering oral supplementation. In addition, for some people with low vitamin D levels, oral supplementation has to be done at a higher regimen than standard over-the-counter supplements and under medical supervision. The proof that vitamin D truly affects MS course will be obtained through careful design of a large clinical trial.

Gray Matters in Multiple Sclerosis

Dennis Bourdette, MD, OHSU

The brain and spinal cord are made up of two parts - the white matter and the gray matter. The names come from the appearance of the sliced brain as observed postmortem. The "white matter" part appears white because it contains such a high concentration of myelin, a fatty substance. The "gray matter" part also contains myelin, but in a much lower concentration. Much of the gray matter consists of nerve cell bodies. For most of recorded history, multiple sclerosis (MS) has been classified as a disorder affecting white matter because areas of myelin loss are readily observed throughout the white matter on inspection of the post-mortem brain from patients dying with MS. Also, MRI studies have shown conspicuous white spots scattered through the white matter. But there has been a curious conundrum in the MS field - the severity of the white matter disease, measured with MRI, doesn't correlate very strongly with neurological disability or with memory and cognitive loss, or fatigue. Why not? This paradox may be at least partly explained by the recent observation that there is a lot of MS damage in the gray matter of the brain. Both in the cerebral cortex (the gray matter ribbon covering the outside of the brain), and the deep gray matter structures (the collection of nerve cells deep within the brain), injury to neurons and myelin are prominent. Unfortunately, lesions in the gray matter are not visible in living patients using standard MRI methods. Consequently, gray matter pathology was not well recognized until recently. Several investiga-

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Center Without Walls Update Cont.

(CWW continued from Page 7)

genes for MS.

3. Relationships between genetics and MRI measures: Using state of the art MRI imaging, we characterize the clinical expression of MS in a way that has never been possible before. As a first step, we focused on the relationship between the strongest susceptibility gene known in MS (HLA-DRB1*1501) and disease severity. We found that patients carrying this gene had increased white matter lesions visible on brain MRI scans, increased axonal injury, increased brain atrophy and increased cognitive impairment compared to patients who did not carry that gene.

4. Testing promising therapies for MS: The group at UCSF is conducting the first trial of neuroprotection in MS in collaboration with OHSU. Patients with early MS who receive a drug that protects nerve cells or placebo are monitored for two years with state of the art MRI to determine drug efficacy.

5. Understanding pediatric MS: The group at UCSF has identified difference in the spinal fluid and brain MRI scans obtained at the time the disease starts in pediatric patients that will result in earlier diagnosis and care. Also these differences inform us on underling disease mechanisms at play in younger patients.

JOHNS HOPKINS MULTIPLE SCLEROSIS PROGRAM:

During the 2008-2009 year for the Johns Hopkins MS Center in the Nancy Davis Center Without Walls we have continued to enhance our understanding of the mechanisms underlying damage to the nerve fibers themselves (called axons) and are developing strategies to measure axon damage using non-invasive imaging methods. These projects will lead to therapeutic interventions aimed at arresting disease progression in MS.

1. Understanding how nerves degenerate: It is now well recognized that there is both demyelination and damage to nerve fibers (axons) in MS. Axon damage appears to correlate better with permanent disability in MS since loss of myelin only slows nerve conduction and it potentially repairable, but axon loss (akin to cutting a wire) disrupts the signal permanently. Since axons in the brain and spinal cord nerves do not regenerate it is critical to stop this process early. There are likely two mechanisms by which axons are damaged in MS, 1) as a result of inflammatory cells that migrate to the nerve tissue and release toxins, and 2) as a result of chronic loss of myelin, which not only provides a protective coating around nerves, but also is a source of active growth support to the axon. We have established models of both the inflammatory and absent myelin processed in order to understand the underlying cellular and molecular mechanisms by which axon damage and loss occur. We have mice with altered genes such that they cannot produce a myelin protein called MAG (myelin associated glycoprotein). MAG is the innermost part of the myelin sheath around axons and is the part that directly contacts the surface of axons. We discovered that the loss of MAG in these mice results in a very slow but progressive loss of axons in the spinal cords of these mice. This process appears very similar to what we think happens in the progressive stages of MS. We showed that by adding a soluble form of MAG (MAG-Fc) that we can protect axons from toxin induced damage.

2. Visualizing axons and myelin with magnetic resonance imaging: A second major focus in our group has been to develop non-invasive methods of imaging axons and myelin in order to better quantify these processes in MS patients and to have an objective outcome measure in future clinical trial of drugs aimed at preventing axon damage (neuroprotection) or for remyelination (neurorepair). A method called diffusion tensor imaging (DTI) has shown promise in allowing us to visualize the integrity of nerve fiber pathways and we have found that this information better predicts damage than conventional MRIs, which mostly measure inflammation. Using the fiber tracking software that we have developed, we can simultaneously obtain information about myelin integrity using a second technique called magnetization transfer imaging (MTI). We showed that these new MRI techniques can reliably detect damage to nerves in the spinal cord. We also found that spinal cord MRI abnormalities can be localized to specific functional pathways in that carry information related to sensation and power and that our new MRI methods predict these functional changes much more reliably than older methods.

UNIVERSITY OF SOUTHERN CALIFORNIA (USC):

The team at the USC Center remains engaged in the study of stem cells, protective effect of pregnancy, vaccine treatment for MS, role of viruses in MS, and their ability to participate in brain repair and regeneration. In the past year and throughout the next, we are:

1. Studying the ability of stem cells to repair and regenerate: Our efforts in this project involve new strategies to control the development of stem cells into the specialized brain cells needed to repair damage to myelin and promote healthy brain function. We have successfully transplanted stem cells into the brains of mice with MS-like disease and shown that these cells remain alive for over two months. Our current strategies are to enhance the function of these transplanted cells so that they can facilitate repair and recovery.

2. Evaluating protective effect of pregnancy in MS: The study of pregnancy in MS also remains a primary focus of USC investigators, with a goal of understanding the protective effect of pregnancy on MS, and what might be responsible for the increased risk for relapse that occurs after delivery. Recent data suggest an indirect neuroprotective function in immune cells isolated from pregnancy, and that the balance in the immune response is dramatically changed during and after pregnancy.

3. Developing a vaccine for the treatment of MS: We continue our efforts to develop a successful vaccine for the treatment of MS using heat shock protein, myelin complexes. We will test these complexes to see if they can treat animal models of MS.

4. Determining the role of viruses in MS: The USC team is continuing to study both endogenous viruses (HERV) and viral infections such as Epstein-Barr Virus.

5. Clinical trials for promising agents for MS: As with our partners in the Nancy Davis Centers Without Walls centers, we participate in programs aimed at a search for the cure of MS. This involves active study of disease mechanisms and the conduct of clinical trials. Our own trial with cell based gene therapy is in collaboration with UCSF. Several studies, especially those involving immune modulation, involve our colleagues at Oregon, Harvard, Cleveland Clinics, UCSF, and Hopkins. All the centers are also involved in trying to identify the risk factors that would indicate who may develop serious virus infection as a complication of Tysabri.

CLEVELAND CLINIC FOUNDATION:

Key issues in MS treatment include the underlying mechanisms causing disease, and the related issue of how to repair damaged brain tissue in MS patients. To better pursue these two issues, we recruited Drs. Richard Ransohoff and Bruce Trapp for expanded roles in the NDCWW. Dr. Ransohoff is an expert in the role of a group of immune communicating molecules - chemokines - in biology and disease, and Dr. Trapp is an expert in myelin biology with a strong commitment to understanding the pathogenesis of neurodegenerative diseases.

1. Chemokines are important in the MS disease process: We believe that chemokines may be important in the MS disease process - both inflammation mediated tissue damage, and the repair process. Dr. Ransohoff and colleagues are using sophisticated gene-targeted mice to determine which model system will permit the most powerful insights into the function of individual chemokines and receptors. It has become clear that certain chemokine receptors are essential to development of brain inflammation in the animal model of MS. This information will identify which of the chemokine receptors should be targeted for novel treatments. The information from these studies will also provide valuable information needed to track inflammation in MS patients.

2. Immune cells residing in the brain protect nerve cells: Pioneering work in Dr. Bruce Trapp's laboratory has identified transected axons in demyelinated white matter lesions and transected neurites in cortical lesions in MS brains. Dr. Trapp's work has helped us to characterize cortical lesions in multiple sclerosis patients. Dr. Trapp has developed the hypothesis that activated microglia, the resident immune cells of the central nervous system, play an important neuroprotective role in the CNS. Using animal models, Dr. Trapp and colleagues have successfully shown that activated microglia induces synaptic stripping and may upregulate a neuroprotective response in the cerebral cortex. Using a combination of gene expression profiling and proteomic approaches, Dr. Trapp's laboratory is identifying candidate molecules and pathways that play roles in this microglial activation and associated neuroprotective response in the CNS. Identification of these molecules will ultimately result in developing therapeutic targets to promote neuroprotection and halt neurological disability in MS patients.

OREGON HEALTH SCIENCE UNIVERSITY (OHSU):

The highlights of 2008/09 are as follows:

1. Completing the first clinical trial of a genetically engineered protein to treat MS: This year we completed the first ever clinical trial of a new treatment for MS invented at OHSU. This treatment involves administering a bioengineered protein, called recombinant T cell ligand (RTL) 1000, by intravenous injection. RTC 1000 shifts the immune system from a "pro-inflammatory" to a regulatory state and thereby may control MS. This initial study involved OHSU, Yale and three other sites. Thirty people participated in this initial study and we determined that a dose of 60 mg could be given intravenously safely. This initial study sets the stage for doing a larger trial to determine whether giving 60 mg of RTL1000 once a month can be done safely and whether it prevents new MS lesions from developing in the brain.

2. Researching how blocking a protein in mitochondria protects nerve fibers: Mitochondria are the energy "factories" in cells. We believe that mitochondria in the nerve fibers or axons in MS become injured and that this leads to the loss of axons and permanent disability in MS. We discovered that inactivating a specific mitochondrial protein, called cyclophilin D, led to a dramatic protection of axons in a mouse model of MS. This novel finding points the way to a new approach to treating MS by blocking this protein with a drug. This year we showed that neurons in which cyclophilin D is inactivated are protected from injury caused by damaging increases in calcium. This supports our idea that blocking cyclophilin D with a drug would be protective in MS.

3. Continuing to develop lipoic acid as a treatment for MS: We were the first to demonstrate that the natural anti-oxidant, lipoic acid, was highly effective at treating the mouse model of MS and the first to begin testing lipoic acid in MS subjects. This year we showed that giving 1200 mg of lipoic acid orally to people with MS gave blood levels similar to that of mice given a therapeutic dose of lipoic acid. We are now planning to test lipoic acid as a treatment for optic neuritis; if successful, this trial would suggest that lipoic acid would be a good oral treatment of relapses of MS and therefore an alternative to steroids.

4. Studying whether energy production in the brains of people with MS is impaired: We believe that the mitochondria in the brain in MS do not produce normal amounts of ATP, the energy "packets" of all cells. If true, this may explain why nerve fibers die in MS and may also explain fatigue in MS. More importantly, it would indicate that treating people with MS with drugs and natural products that enhance mitochondrial function would be beneficial.

MS: Opening Up to Your Family

A chronic and unpredictable disease, such as multiple sclerosis, has significant impact not only on you but also on your loved ones. You are not the only one who suffers. Your partner and children must also cope with the disease and the changes it may bring. If you have little or no physical disability, your family life may not change at all. But, there may be times when you will need to change your family activities, choosing ones that are less physically demanding and time-consuming. The most important thing to do is to communicate openly about your emotions and about issues related to MS. It is especially important for you to explain to your loved ones how MS affects you. Some symptoms of MS are not apparent to others, and family members depend on you to tell them when a problem occurs.

What Your Children May Be Feeling: Often children are worried about you and fear you will become disabled or will die. Frustration may arise when you are unable to keep up with them or to make commitments the way other parents can. Some children may also feel ashamed and embarrassed to go out in public with a parent who requires assistance with a cane or uses a wheelchair. The best way to handle these concerns is to talk about them. Ask your children questions about what they are thinking. Try to alleviate some of their concerns.

Talking to Your Children About MS: Talking openly with your children about multiple sclerosis helps relieve their anxiety about your health. Children of all ages are very intuitive and know when something is different or has changed. Talking with your child opens the lines of communication and helps to reduce fear and stress. When parents are reluctant to talk to their children about the disease, kids misinterpret silence as an indication that the situation is so bad that it cannot be discussed. Parents who can talk with their children about MS convey a message of trust, confidence, and strength. When responding to questions or concerns, take into consideration your child's age and maturity level, and don't overwhelm them with information they cannot understand. If you have more than one child, it may be helpful to talk to them individually so that you can tailor your discussion to their level of understanding. You may want to ask them how they would like to learn about MS -- reading a book alone or with you, watching a video, or going with you to a doctor's visit.

Excerpt. Source :
http://www.webmd.com/multiple-sclerosis/ms-tips-daily-living-9/children-family

Multiple Sclerosis: Physical Therapy

The symptoms of multiple sclerosis (MS) can affect your ability to move around. You may be experiencing tightness, pain, and weakness, especially in the muscles and joints. Physical therapy may help. Physical therapy cannot cure the primary symptoms of MS (such as weakness, tremors, tingling, numbness, loss of balance, vision impairment, paralysis, and bladder or bowel dysfunction), but therapy can enable you to compensate for the changes brought about by MS. These "compensatory treatments," as they're called, include learning about new movement techniques, strategies, and equipment. Physical therapy can also be very helpful at lessening and even stopping secondary symptoms of MS. A physical therapist can teach you exercises to strengthen and loosen muscles. Many of these exercises can be performed at home. The goal of physical therapy is to improve your independence and quality of life by improving movement and function and relieving pain.

http://www.webmd.com/multiple-sclerosis/ms-tips-daily-living-9/physical-therapy

Stress and MS

There are three types of strategies that can help people cope more effectively with the chronic stress that accompanies MS. Sometimes you can change something in your circumstance to help you avoid stress. Environmental changes can reduce some obstacles in your physical world that contribute to stress. Change your work routine so that you tackle more difficult tasks in the morning, when you have more energy. Move the laundry room to the main floor to conserve some energy. Find a healthcare provider you trust. These are all examples of changes you can make to your environment to eliminate and prevent stress.

Excerpt from: InforMS, Rocky Mountain Center, Spring 2009, Volume 25, Issue 2

Tips for Keeping Cool

It is the core temperature, the heat deep in the body, that makes the difference in nerve conduction. Just lowering the core body temperature by one degree F can make a huge difference to what you can or cannot do.

Tips for Keep Cool: 1) Wear cotton or silk, rather than man-made fibers like polyester. 2) Eat cool foods like cucumbers 3) Drink chilled fluids. Nothing beats iced water. 4) There are plenty of cooling products on the market. Try things with aloe, cucumber, menthol. 5) Cool showers. Start with warm water and gradually turn to cool. 6) Cool down after exercise. 7) Make your own personal cooling system using thermal bags containing `blue ice' gel packs.

Cool water works better than air. So a cold shower or a swim in tepid water is a faster way of getting your temperature down than sitting in an air-conditioned room.

Excerpt from:
http://www.msrc.co.uk/index.cfm?fuseaction=show&pageid=807

2009 Women of Achievement

Century City Chamber of Commerce Awards Luncheon

Back row: (From L to R) Los Angeles City Controller Wendy Greuel, Honoree Mary Leslie, Honoree Lucinda Starrett, Keynote Speaker Dr. Susan Love, Leonard Aube, Honoree Nancy Davis, Honoree Christine Devine, Honoree Gillian Zucker, The Transportation Deputy for Assembly member Mike Feuer Ellen Isaacs
Front row: (From L to R) Women's Business Council Co-Chair Cindy Giordano-Taylor, Century City Chamber President Susan Bursk, Women's Business Council Co-Chair Erika Garcia-Lavyne

The Century City Chamber of Commerce hosted the 2009 Women of Achievement (WOA) Annual Awards Luncheon at The Beverly Hilton Hotel on Wednesday, October 21, 2009.

The selected recipients were: Wallis Annenberg, The Annenberg Foundation; Nancy Davis, Nancy Davis Foundation for Multiple Sclerosis; Christine Devine, FOX 11 News; Mary Leslie, Los Angeles Business Council; Lucinda Starrett, Latham & Watkins LLP and Gillian Zucker, Auto Club Speedway.

Each year the Century City Chamber of Commerce Women's Business Council (WBC) recognizes women in the Century City Community whose professional dedication and commitment to excellence are an inspiration to all. While the 2009 Women of Achievement honorees professional careers range from law to philanthropy to entertainment, their personal lives have been dedicated to making their communities stronger, mentoring other women in their careers and raising funds and awareness for a multitude of non-profit and charitable organizations.

"This year's honorees are incredible women with talents in various industries. The Chamber is proud to honor such an inspiring group of business professionals who also dedicate their time and hearts to philanthropies that matter to them," said Susan Bursk, President and CEO of the Century City Chamber of Commerce.

HEROES AMONG US

THE 2009 HERO AWARDS

The Hero Awards honor everyday people who have gone out of their way to help others and their community. The 2009 Awards honored such philanthropists and humanitarians as Nancy Davis, Kathy Ireland, Dr. Todd Price, Dorothea Liguori, Jolanda and Jiovanna Jones, Zach Smothers, USMC Lance Corporal Jeremy Lepsch, Madelyn Eaves, and Hero the German Shepard. This star-studded event was hosted by Dean Cain and featured appearances by stars of film and television and included exciting musical performances. Produced by Associated Television International in association with USA Weekend with all of the event proceeds to benefit Feed The Children. The award show aired on MyNetworkTV on July 7th, 2009.

Center Without Walls Collaborating Physicians

Dr. Jack Antel,
Montreal Neurological Hospital
Dr. Rob Bakshi
Brigham & Women's Hospital
Dr. Guy Buckle, Harvard
Brigham & Women's Hospital
Dr. Michael Carrithers,
Yale University
Dr. Tanuia Chitnis, Harvard
Brigham & Women's Hospital
Dr. Jeffrey Cohen,
Cleveland Clinic
Dr. Kathy Conant,
Johns Hopkins
Dr. George Eisenbarth,
University of Colorado,
Health Sciences Center
Dr. Elizabeth Fisher,
Cleveland Clinic
Dr. Bob Fox,
Cleveland Clinic
Dr. Suzanne Gauthier, Harvard
Brigham & Women's Hospital
Dr. Wendy Gilmore,
University of Southern California
Dr. Ari Green,
University of California, San Francisco
Dr. Charles Guttman, Harvard
Brigham & Women's Hospital
Dr. Halina Hoffner,
Oregon Health Sciences
Dr. Norman Kachuck,
University of Southern California
Dr. Samia Khoury, Harvard
Brigham & Women's Hospital
Dr. Jeff Kocsis,
Yale University
Dr. Brian Kotzin,
Amgen
Dr. Brett Lund,
University of Southern California
Dr. Gerald Nepom,
Virgina Mason, Seattle
Dr. Jorge Oksenberg,
University of California, San Francisco
Dr. Daniel Pelletier,
University of California, San Francisco
Dr. Jana Preiningerova,
Yale University
Dr. Richard Ransohoff,
Cleveland Clinic
Dr. Daniel Reich,
Johns Hopkins
Dr. William Rooney,
Oregon Health Sciences
Dr. Bruce Trapp,
Cleveland Clinic
Dr. Arthur Vandenbark,
Oregon Health Sciences
Dr. Arun Venkatesan,
Johns Hopkins
Dr. Ruth Whitham,
Oregon Health Sciences
Dr. Scott Zamvil,
University of California, San Francisco

photo gallery, continued


Kirsten Sarkisian, Nancy Davis, and Keith Sarkisian


David Osmond


Tommy and Dee Hilfiger, Kym Gold-Lubell and Guest


Nancy Davis and Anne Heche


Sabine Niederberghaus-Lesavoy, Clive Kennedy


Maria and Bill Bell and Guests


Becky Hernriech, Guests, and Carolyn Powers


Amanda Bynes


Matt MacEachern and Emma Sharratt


Bill and Stephanie Perkins, Brad and Lorie James


Betsy Smith and Elizabeth McKenzie

Louis Van Amstel with "Dancing with the Stars"


Lily Lee, Dr. Eric Fugier and Brenda Richie


Margie Lopata, Nicole Whitmore, Mary Ellen Mitchell, Dr. Don Cleveland


Nancy Davis and Katie Brass


Gene Hill and Claudia Curry Hill


Angie Harmon and Jason Seahorn


Steven Cojocaru and Julie Araskog


Marilyn Moore and Shemar Moore


Bill MacMillian Family and Guests


Jeremy Piven


Alexandra Knight, Lori and Chuck Binder


Caroline Finkelstein, Ernie and Stephanie Cockrell


Blair Underwood


Brett Gurksy, John Vesely, Jordan Cohen


Kathryn and Alastair Belton


Jim MacMillan, Jason Siler, Yaara Elisha, Melissa Dillow


Austin Fuentes and Guest


Mr. and Mrs. Byron Allen,
Nancy O'Dell and Nancy Davis


Nicholas and Cindy
Locke


Guests with Nick Chavez,
Dana Davis, Lynn Palmer


Mitch Glazer, Guest,
and Kelly Lynch


Mandana Farman-Farmian and Guest


Denise Dador
and Nancy Davis


Jessica Lowndes


Mark Held
and Nancy Davis


Michelle Branch
and Jewel


Howard Sherman
and Sela Ward


Daisy Fuentes
and Nancy Davis


Kim Marshall and Guests


Nancy Davis
and Jamie Falkowski


Silvia Baker, Tracy Danza
and Beth Rakow


Lea and Drew Lachey


Shawn King and Guest


Loree Valle, Richard David,
Suzanne Marx


Guest with Dee and Tommy Hilfiger,
Ioan Gruffudd and Alice Evans


Bill Maher and Guest


Mike Olsker
and Lelsie Levecke

Larry and Kelly Thompson


Russ Gordon, Bryan Carter,
Bill Newell


Debbie and Jeff Conti


Ron Williams and Guests


Bill and Giuliana Rancic


Mandie and John Borreson

from our supporters

Thank you to our incredible supporters across the country who are raising money for the Nancy Davis Foundation Center Without Walls program! With your generosity in our Race to Erase MS. With your support, we will find a cure!

Cindy Locke
Orange County, CA

Cindy was diagnosed with MS in 2007 and recently became a supporter of our foundation, jumping in full force to help us find a cure! Owner of Zaza Collections, she designed exclusive rhinestone t-shirts to be sold year round to benefit our cause (see below). She is a wife and mother to three year old Carina and is producing her first fundraising event to benefit the Nancy Davis Foundation. SAVE THE DATE!

dance to erase ms
orange county

January 24, 2010
with Shane Sparks, Choreographer from "So You Think You Can Dance"
at the Bren Center, Irvine
One hour dance lessons with master choreographer, entertainment, vendors, VIP reception party.

Ticket and Information 949-305-8970. Tickets will be available at all Ticketmaster outlets.

Get Your "MS WARRIOR" T-SHIRT" at My One Stop Bling Shop!

Help us find a cure for MS! 100% of the proceeds from the sale of all of MS shirts will go to the Nancy Davis Foundation for MS.

Featured rhinestone t-shirt can be personalized for children or adults with your wishes to your loved one with MS.

Examples:
Erase MS for my Mother or Mommy
Erase MS for my Father or Daddy
Erase MS for Cindy (place any name)

Back of the shirt features an Orange bow on the shoulder and the Nancy Davis Foundation for MS website. For more information and to buy visit www.myonestopblingshop.com

Owner, Cindy Locke, lives with MS and is inspired by Nancy Davis' and her work to to find a cure for MS in our lifetime.

Nicole Whitmore
Salem, MA

Over the last three years, Nicole has raised over $10,000 for the Nancy Davis Foundation to find a cure for MS! This year she attended our annual Race to Erase MS Gala. On behalf of everyone who is affected by this disease, we are so grateful for her energy and spirit in asking friends and family to make a donation each year in her honor. THANK YOU!

In 2010 Nicole is taking her fundraising one step further and holding her first event to raise money for our foundation! So if you live in her neck of the woods, SAVE THE DATE! For more information call 978.969.1893.

Colie's Cure
Stand Up Against MS
An Event to Benefit
The Nancy Davis Foundation for Multiple Sclerosis

Saturday March 20, 2010
Cocktails and Entertainment
Kernwood Country Club, Salem, MA

Debbie Conti
Jacksonville, Fl

Debbie, who has been married for nine years and has three small children, was diagnosed with multiple sclerosis last year. In 2009, she met Nancy Davis during the taping of a MS segment for the Emmy nominated show "The Doctors" and then attended the foundation's Race to Erase MS event and annual MS Forum. Debbie became an immediate supporter of the foundation and is grateful to Nancy for helping her through tough times by giving her strength and hope!

Debbie decided she would raise money in her hometown of Jacksonville for the Nancy Davis Foundation by producing her first fundraising event which took place on November 13, 2009. "Dance Your Orange Off" was a huge success and we thank Debbie and your volunteers for their incredible enthusiasm and support!

(RACE continued from Page 1)

items including a Lamborghini Gallardo LP 560-4 Spyder, and a seven day island adventure stay at Tommy Hilfiger's home in Mustique. Among the guests were such superstars as Dustin Hoffman, Avril Lavigne, Anne Heche, James Tupper, Jewel, Amanda Bynes, Angie Harmon, Jeremy Piven, and Bill Maher.

To all that made this night a success, we want to thank you for your infinite generosity and help in finding a cure for Multiple Sclerosis. We absolutely could not do it without you! Save the date May 7, 2010 for our 17th Annual Race to Erase MS at the Hyatt Regency Century Plaza!

(GRAY cont. from Page 7)

tors from Nancy Davis CWW sites have made key contributions to the rapidly growing field of gray matter pathology in MS.

Even though gray matter lesions can't be directly visualized yet, it has been possible to measure the overall amount of gray matter pathology by measuring gray matter tissue loss using sophisticated MRI analysis methods. Using these techniques, loss of gray matter tissue ("gray matter atrophy") has been shown to occur early in MS, to continue throughout the course of MS, and to correlate with neurological disability and with neurocognitive deficits. Interestingly, gray matter atrophy correlates better with neurological disability than does white matter atrophy. These new findings have led some to suggest that MS should be reclassified as a disorder of gray matter! Gray matter involvement in MS is one of the hottest research topics in the entire field. Investigators are working feverishly to develop new MRI techniques that will visualize and quantify gray matter lesions, to understand the relationship between gray matter and white matter pathology, to determine the precise relationship between the clinical features of MS and gray matter pathology, and to determine the impact of MS disease modifying drugs on gray matter pathology. Ultimately, treatments will be directed at preventing or reversing damage in the gray matter.

Stem Cells from Your Skin

Dr. Stephen Hauser, UCSF

Neurodegenerative processes are believed to play a role in the progressive phase of multiple sclerosis, but until recently the unavailability of nerve cells from patients has greatly slowed progress in understanding why myelin producing cells and nerve cells are destroyed in MS.

Multiple sclerosis is best studied not in animal models, but in human cells from real people with MS. Stem cells have for many years been considered a wonderful potential source of material for regenerative efforts. However, practical methods to grow usable stem cells from adults remained an elusive goal.

Very recently, however, researchers demonstrated,that skin cells from adult humans could be reprogrammed in test tubes to become so-called induced pluripotent stem cells (iPSC). These stem cells can be turned into cells of numerous tissues, including nervous system cells. In fact, nerve cells derived from iPSC have even been shown to faithfully reproduce disease pathology in amyotrophic lateral sclerosis (Lou Gehrig's Disease) and spinal muscular atrophy (a childhood disease resembling ALS). Remarkably, any type of cell derived from iPSC is genetically identical to and thus compatible with cells from the donor.

In people with multiple sclerosis, iPSC-derived CNS cells (including astrocytes, neurons and oligodendrocytes) are being developed through the support of the Nancy Davis Foundation for MS. Not only do these cells provide an important basis for a better understanding of multiple sclerosis, but they also carry real hope that someday soon they could be used repair and ultimately heal MS scars.

For more information, visit the http://neurology.ucsf.edu/msc/team.htm.

In Loving Memory
Paul Sharratt

Paul and Susie Sharratt

**Paul will be greatly missed.
He was a fantastic producer
from Associated Television
International
that so generously gave of
his time to our
Race to Erase MS events.
Our hearts are with
his family and friends.**

Thank you to Fit Flop who supported our annual MS Forum by donating a pair of shoes to every attendee!

Biomechanically designed with a patent-pending microwobbleboardTM technology midsole, FitFlops increase leg muscle activity by approximately 10-12% with each step. In addition, the rear of the sandal contains the firm, high density section that absorbs up to 22% more shock, providing relief for a myriad of ailments, improving circulation and perfecting posture. Even the American Podiatric Association has given the FitFlop their stamp of approval. Research has been shown that fit flops have been beneficial to people with MS and statistical studies should be released in the next year.

Available from $49.99 at Macy's, Nordstrom, Bliss, Victoria's Secret. For further store listings visit: http://www.fitflop.com

Nancy Davis Foundation for Multiple Sclerosis
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Fax: 310-471-4975
http://www.erasems.org

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TRIBUTE CARD PROGRAM

Actual Card

Pay tribute to friends and family for special occasions and help us win the RACE to Erase MS!

We will send a card with your personal message to your friends or family on your behalf. It is a thoughtful gesture for a Birthday, Anniversary, Thank You, Speedy Recovery or any occasion.

See the self mailer included in this newsletter or visit www.erasems.org. Gifts can also be made by calling our office at (310) 440-4842.

SAVE THE DATE

17th Race to Erase MS Gala
Friday, May 7, 2010

Hyatt Regency Century Plaza

For more information please call 310-440-4842 or visit www.erasems.org

MS Forum and Expo
Saturday, May 8th, 2010
Hyatt Regency Century Plaza

Free to the public. Open forum with our top MS research scientists speaking on the latest advancements in multiple sclerosis research.

RACE TO ERASE MS

2009 Major Sponsors

Thank you for your generous support!

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