

Synapse

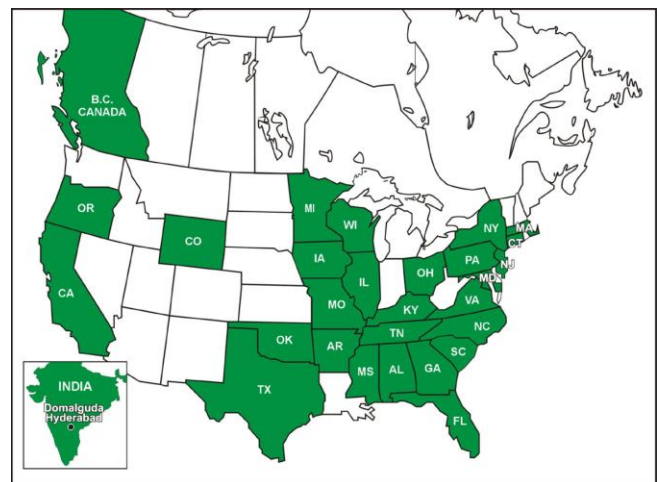
Spring 2007

Serving the Primary Lateral Sclerosis Community since 1997
 Welcoming the SP Foundation since 2003



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States Represented at SP National Conference



SP FOUNDATION REPORT

Final Totals of SP Income for 2006

Category	Total
TeamWalk	203,000
2006 Year End Appeal Letter	96,569
Unrestricted	41,084
Exxon-Mobil Workplace Giving	33,754
RGM Memorial Golf Classic	26,970
Loop For Life Event	24,000
Annual Report 2006	19,374
Memorials	18,959
Pennies	10,671
Miscellaneous	7,175
Carolyn's Southampton Benefit	5,655
Program Fees	1,213
Grand Total	\$488,424

A Letter from the SP President

The 2007 National Conference held in Nashville was attended by approximately 120 people. Doctors Hedera, Floeter, Fink, Bedlack and Konrad provided information on research projects, treatment options and technology opportunities. Dr. Hedera spoke about the research taking place with worms, flies and zebra fish and commented that "You ain't seen nothin' yet". Every new data point found during research generates more questions which results in more tests. If we want the researchers to find our cure,

it is incumbent on us to support them with \$\$\$\$.

For 2007, SPF is making \$325,000 in research grants available for HSP and PLS research.

One new way to raise money for SPF this year is to spread the word that SPF is now approved for the Combined Federal Campaign, CFC. The CFC is the world's largest and most successful annual workplace charity campaign, with more than 300 CFC campaigns throughout the country and internationally which raised more than \$260 million in pledges in 2005. Pledges made by Federal civilian, postal and military donors during the campaign season (September 1st to December 15th) support eligible non-profit organizations that provide health and human service benefits throughout the world. Approximately 20,000 organizations participated in the 2006 campaign. The CFC code for SPF is 12554 (changed to 5 digit numbers in 2007 to accommodate the number of participating organizations). Please pass this information on to friends and family who participate in local CFC Campaigns.

It is time to start planning for our TeamWalks. Six TeamWalks already have places and dates arranged with ten others that are still being scheduled. Please contact Linda Gentner, lkgentner@aol.com, if you would like to help with the TeamWalks.

The SPF Board of Directors held their annual meeting in Nashville prior to the Conference. No new board applications were received. The officers were elected: Annette Lockwood, President, Linda Gentner, Vice-President, David Lewis, Treasurer and Frank Davis, Secretary. Jim Sheorn was elected as President-elect and will take over the presidency in 2008. During the meeting, we held a conference call with Edit Reizes. Edit was selected by SPF to provide consulting services in an effort to strengthen our fundraising and development efforts with foundations and corporations. We also approved the budget for 2007 and have a goal to raise \$550,000 which is 10% above last year. So far, SPF has raised approximately \$75,000 thanks mainly to two large donors. Please help SPF reach our goal by participating in our fundraising events

such the TeamWalks, Saving Pennies for SPF and CFC (let everyone know).

Annette Lockwood

EVENT REPORTS

Summaries of the Four Major Nashville SP Conference Speeches- April 14

Contributed by Jim Campbell

Dr. Peter Hedera - "Using Worms, Flies and Fish in Search of a Cure"

Dr. Hedera is at Vanderbilt as an assistant professor of neurology. His research is on the genetics and molecular biology of HSP. He is a recipient of a Spastic Paraplegia Foundation research award. He indicated that these are exciting times, as when you answer one question... it creates hundred more. If we can shut off genes to stop protein production, we may help unravel many questions and hopefully slow progression. He has found similar function of some genes in worms, flies, fish and humans. Since life span of these lower life forms is short, he can quickly find if he's on a wrong track. Furthermore the worms and fish are transparent, so he can see what is going on within them. His slides with worms in motion showing disease progression made clear to all how his study works. Eventually promising leads will be tried in higher vertebrates.

Dr. Mary Kay Floeter - "Primary Lateral Sclerosis: Lessons from Patients"

Dr. Floeter is Chief, EMG section and the Chief of the Human Spinal Physiology Unit (the research unit of the EMG section) and the Deputy Clinical Director of NINDS. NINDS is one of the Institutes at NIH. The work she has been doing on PLS is within the research unit. NINDS started in 1999 to define PLS by physician referral of patients.

Her work is devoted to:

1. Defining the clinical features of PLS
2. Analysis of the epidemiology and environmental risks

3. Analysis of genetics of patients

Then she goes back to the bench to validate surrogate markers.

She went on to discuss each point in detail. About 3% of ALS patients have PLS. That means there are 600-1800 in USA, and 50-75 new patients per year. Earlier this year Michael Strong's group published a paper which compared ALS and PLS.

The medial life expectancy with ALS is 3 years; with PLS it is greater than 20 years. Stiffness presented in 47% with PLS vs 4 % with ALS. Muscle atrophy presented in 2% of PLS vs 100% with ALS. 77% who developed LMN signs did so by 4 yrs. after symptom onset.

She then discussed the physiology of upper motor neurons. She outlined three clinical subtypes: ascending, multifocal, and sporadic paraparesis. From 300 initial contacts, 100 records were screened, 63 were evaluated, and 45 fit the above criteria. The median onset is 45-50 years; patients have a normal life span; the fastest deterioration occurs in 1-2 years for ascending. Of the 45, 33 had symptom onset in legs (ascending). In the current study of possible cognitive difficulties study 30 patients and 30 controls is the goal.>When looking at epidemiology and environmental risks, so far there is no good correlation with risk factors. The depression found in many patients probably preceded disease onset.

She hopes to challenge SP to survey our membership to help advance the work with scientists.

Dr. John Fink - "Molecular Processes Underlying HSP."

Dr. Fink is a Professor of Neurology at the University of Michigan where he directs the neurogenetic disorders program. He studies genes that cause these disorders, recently identifying two genes that cause forms of HSP, and is developing animal models of these disease, a pathway toward finding a cure. He has been the scientific medical advisor for the Spastic Paraplegia Foundation since the beginning, and he played a major role in getting us started. He is a recipient of a Spastic Paraplegia Foundation

research award in 2003 and again in 2006.

Like Dr. Hedera, Dr. Fink is excited to be a part of a new research agenda. Whereas five years ago medicine had no idea of causes, now 33 types of HSP have been identified. He's recently found a family with dominantly inherited PLS. In his Power Point presentation, he a brain diagrams. He explained that the primary motor cortex in front of middle gray matter ribbon contains nerve cell bodies. The white matter beneath contains nerve cell axons which go to axon terminals. Each axon is surrounded by a myelin sheath. A single axon of .5meters extends all the way through the spinal cord where the lower motor neuron continues. Axonal transport propagates through microtubules both via nerve impulses and molecules. The microtubules are constantly replaced/refreshed. Enzymes cleave to the microtubules. Chemicals transfer signals across synapse or space. In ALS it has been found that surrounding cell health is import to maintain health of motor neuron. In PLS and most HSP distal axonopathy degeneration is now thought to be at distal end of axon at lower terminals (not a myelin problem). He said that proteins are involved in creating axonal abnormalities. He is now questioning an apparent dichotomy: are the diseases primarily ones of degeneraton or are they developmental disorders at onset of nerve development. If the latter is true, minor symptoms might be diagnosed much earlier, maybe at early stages of development.

Richard Bedlack, M.D., Ph.D.-"Barriers to Treating Patients with PLS...and ways around them."

Dr. Bedlack is an Associate Professor of Neurology at Duke, and director of their ALS clinic. He is also Chief of Neurology at the Durham VA Medical Center. He is involved in clinical trials of new treatments, as well as epidemiology (the study of disease in populations of people) and is studying the causes of motor neuron diseases, to learn how they might be stopped.

Dr. Bedlack began his talk by comparing PLS to ALS. They are alike in many ways, but there are

not therapies for disease modification or symptomatic therapies for PLS. Published articles are 133-PLS/761-ALS. Relevant therapies are 1-PLS/50-ALS. Another barrier is the cumbersome diagnosis procedure. MRIs, EMGs and other tests can't prove a diagnosis. Since PLS appears to be a progressive upper motor neuron disease involving multiple body parts, in order to prove that no other process is involved, one must wait 4 years from symptom onset for a definitive diagnosis. During that time, damage may already have been done. The next barrier is the rarity. Only 2-5% of MND diagnoses are PLS. There is a lack of preclinical models; we don't know cause or pathophysiology; molecular targets have not been identified; there is no good animal model like there is for ALS; there are no validated measures over time. He next discussed how to get around these barriers.

- continued searching for an imaging or electrodiagnostic test
- look for a biomarker in blood or spinal fluid
- micro array genomic screens
- more published articles such as the one in "Lancet Neurology" April, 2007
- analyze protein signals in PLS vs. normal controls
- compare PLS with ALS data base as controls early on
- accept that it's either ALS or PLS (lump them together)
- VA has 113 PLS confirmed patients
- Make use of the ALS Registry
- Make use of preclinical ideas from other diseases
- chronicle patient experience, variability of symptoms and progression rate
- use micro array to detect differences in protein signals
- borrow outcome measures yield

He is now conducting a Levetiracetam study with 20 patients with progressive UMN diseases. He has also submitted a grant proposal to SP Foundation - protein biomarkers ALS vs PLS and patients with fast vs. slow progression using the

VA registry. He is hoping the study might yield microbivascular targets.

Upcoming Regional TeamWalks

Linda Gentner, coordinator

Our theme this year will be: "Come walk with us today so we can walk with you tomorrow"

(thanks to Gary King)

Mt. Kisko, NY TeamWalk

Ann Lakin - alakin90@aol.com -- September 9

Raleigh, NC TeamWalk and Magnificent Mile Race

Sarah Witt - srwitt@yahoo.com -- 919-848-0582 - September 16, 2:00 PM downtown Raleigh -

Long Island, NY Team Walk

Betsy Baquet - ebaquet@optonline.net -- 516-520-5906 - September 19 -- Wantagh Park

Pleasanton, CA TeamWalk and Race for a Cure

Linda Gentner - lkgentner@aol.com -- 510-651-5676 -- October 6

Thomasville, GA TeamWalk and Gathering Dinner (?)

Jane Anne King - gking@rose.net -- 229-227-0558 October 19-20

Houston, TX Texas Two Step

Brad Hendricks - treeman1@houston.rr.com -- 713-416-6604 -- October 20

Confirmed -- dates to be determined

Lexington, MA TeamWalk

Kathi Geisler - kathi@kgeisler.com -- 978-256-2673

Nashville, TN TeamWalk

Jim Sheorn - jmsheorn@comcast.net -- 615-479-7369

Norman, OK TeamWalk and Weekend Gathering

Mark Dvorak - czechmarkmhd@yahoo.com -- 405-447-6085

Probable

Orlando, FL TeamWalk with the Spinal Cord Injury Conference, Aug. 27-28-29 (Mon-Tues-Wed)

Annette Lockwood -

annette.lockwood@verizon.net -

TeamWalk would be Sunday, Aug. 26

Toledo, OH TeamWalk

Moira Franchetti -

moirafranchetti@sbcglobal.net -- 419-865-0517

Bend, OR TeamWalk

Karen Long - LaRue2034@aol.com -- 541-689-9643

Annapolis, MD TeamWalk

Shannon Gregory - segregory20@verizon.net

More SP Upcoming Events

Austin, TX: June 2, contact

MDoolen512@aol.com

King of Prussia, PA June 9 contact Anna

Bonanni 610-506-1113

Philadelphia, PA: June 9, contact

lizout@aol.com

Los Angeles, CA: June 16, contact

malind@cox.net

Autumn in Carolina - Annual SAWCAR Race

Don Wilson - don-wilson@earthlink.net -- 336-969-6748

SP FOUNDATION NEWS

Mark Weber Speaks in Nashville

Past SP President and founder, Mark spoke at the April 14 SP National Conference. He proudly announced that in the five years SP Foundation has existed, \$1.5 million will have been awarded in grants by fall. He humbly thanked everyone who has worked so hard for the past five years to raise research funds. As he put it, "If you build it, they will come". He pointed out that each one of us in the patient community has a network behind each of us. Each goes to their own network of family and friends for dollars.

Inductees into the SP Hall of Fame

As part of the celebration of five years of the SPF, the following people were inducted into the new SP Hall of Fame

In the Beginning!

John Fink, MD, Shellie Fischer, Kathi Geisler, Mark Weber

Shakers & Movers

Betsy Baquet , Thurza Campbell, Marlene Doolen, Mark Dvorak, Linda Gentner, Ronnie Grove, Jane Anne King, Annette Lockwood, Sue Meholick, The Milbourne Family, Don Wilson, Sarah Witt

Behind the Scenes

Anna Bonnani, Doug Brand, Flora Brand, Frank Davis, David Lewis, Martha Nance, MD, Nancy Shaidnagle, Cheryl Schumer, John Swain

Never to be Forgotten

Dean Bathalter, Kay Bell, Warren Cave, Alexander Grossbier, Gerry Leary, Hazel Lewis, Frank Reyerse, William Swain, Thorn Twitchell, Jeannie Young, Emma Yugo

Dr. Malin Dollinger is Writing a Book for Us

Contributed by Dr. Malin Dollinger, SP Board

I am in the early stages of editing a book about HSP and PLS. It is intended primarily for patients and families, although I would be pleased if neurologists became aware of it also. The book will be primarily directed toward explanations of practical information, day-to-day needs of people with these conditions. There will be some "science" for example basic

neurology/anatomy/signs of neurologic disease, as well as explanations of PLS and HSP. There are many known aspects of both conditions and many areas of uncertainty.

This, coupled with the variation in how each person is affected by these diseases, and at what age, makes it difficult to make exact predictions of how each person will do in the future, or even how their affected children's symptoms, in the case of those with genetically-based conditions, will or will not resemble the affected parent. Part of the book's information will be chapters on each of various important subjects, which will include topics common to both HSP and PLS. Examples include the use of drugs, mobility aids, travel, legal aspects of disability, the use and type of exercise, insurance help, the baclofen pump, injections into muscles (Botox and phenol), various sophisticated mobility aids (to aid walking), and on and on. I am searching for volunteer authors who are experienced on one or more of these subjects to assist in the writing. I do

have several people "on board" already. One of the areas of importance will be a formal survey of as many people with HSP and PLS as we can find, that will list and catalog various life experiences, symptoms, treatments, problems, and especially solutions. It is important to get everybody surveyed. So in a sense, all of you are authors of the new book, since your collective experience, and your collective needs, are the basis.

We (the Spastic Paraplegia Foundation Board of Directors) made several important decisions:

1. We would fund the costs of the book production That is clerical costs, printing, publishing, etc. My work as an editor is a gift to the community.
2. It would be directed at both PLS and HSP. There are many more areas of similarity that need discussion, than differences. And we will discuss the "science" of both.
3. Although much information is available "somewhere" it would be important to have it all "under one roof." Thus the book will repeat some information already available, e.g. the SPF website, as a convenience, especially for those without computer abilities.
4. We would work together with various agencies affiliated with both conditions, HSP and PLS, since not only is the SPF devoted to both conditions, they are very inter-related.
5. The survey will be carefully constructed, and will be sent to as many people as we can identify. Although we thought of a computer-based survey initially, it has become apparent that a mailed survey has several important advantages.
6. This project will take a couple of years. One year for gathering information and another for the writing. I already have a publisher.

If any of you is able to offer expertise in any area of interest, please contact me. malind@cox.net
Malin Dollinger 26235 Birchfield Ave Rancho Palos Verdes, CA 90275

SPF Approved for 2007 CFC

Contributed by Annette Lockwood

SPF applied for and was found eligible for the 2007 Combined Federal Campaign (CFC). The

CFC is the world's largest and most successful annual workplace charity campaign, with more than 300 CFC campaigns throughout the country and internationally which raised more than \$260 million in pledges in 2005. Pledges made by Federal civilian, postal and military donors during the campaign season (September 1st to December 15th) support eligible non-profit organizations that provide health and human service benefits throughout the world. Approximately 20,000 organizations participated in the 2006 campaign. The CFC code for SPF is 12554 (changed to 5 digit numbers in 2007 to accommodate the number of participating organizations). Please pass this information on to friends and family who participate in local CFC Campaigns.

GoodSearch

Contributed by Linda Gentner

Please use GoodSearch.com_

(<http://www.goodsearch.com/>) for your Internet searching because every time you do, money gets donated to the Spastic Paraplegia Foundation. These donations will support Research Awards to find the cure.

LIVING WITH HSP/PLS

Daily Living and Coping

Contributed by Diana Montague-Jackson

Everyone is at a different point in their life, and that is where we need to be. If I am going through 'anger'....maybe I need to. I may be processing some grief....let's face it...the loss of our health is a genuine loss. We can 'ya, but' ourselves all we want, but in the end,...we need to feel what we feel. For me, I know that it is taking a long time for me to go through the process of accepting and living with PLS....and I have had it over 10 years. "We cannot Heal, What We Cannot Feel....and express". When someone honestly shares their feelings about something, it helps me alot. Then I don't feel so 'different'. One thing about 'venting'....it does not have to be 'logical'. In fact, the worst reply to someone who is 'venting' is to

try to go 'logical' on them. Venting straightens out the neurotransmitters in the brain, as long as the venting is sincere and full....and receives support. Once we have got all that stuff out, and heard someone say " I hear ya....I can tell you feel very angry/sad/etc, the logical part of the brain can start to problem solve. I have studied the research on this at university time and again....it's a fact. In this last year, I experienced the death of a baby (while I was with her), from S.I.D.S., my family were nearly killed in a car accident and my 16 year old daughter developed Bi-Polar Disorder and had to be hospitalized. So...ya....I get cranky sometimes... other times...I feel very peaceful...other times sad. Life is a process and emotion adds color to life. I look at life as a painting... emotion is the color. Black and white paintings are pretty boring eh? Let's face it....we are all on a 'journey' and the important thing is to 'Be Where We Are' and not fight it so much. I find that over the last few years I 'fight' things much less...things I cannot change. Then I find peace.

Contributed by Jerry Simmons

Never having had to depend on anyone for anything was not a macho thing for me, but was a survival skill I learned from my very tough mom. So this PLS stuff was a real blow to me. I had to give up just about all I identified with which is what gives us purpose in life. Not being a macho man I know this feeling of helplessness effects women the same way. It is not a sex, age, or race issue. It is a human emotion issue. Now I have to practice what I taught kids in a youth group. When someone throws you a rope no matter how deep the hole is you still have a choice. You can use the strength you have left to assist them in pulling you up or you can use it to pull that person down into the same hole. Picture this group as a rope or better yet a chain. When we link together we become stronger.

Book review of *The Official Patient's Sourcebook on Hereditary Spastic Paraplegia.*

Contributed by Malin Dollinger, M.D.

It is one of a series of books of "Official Patient's Sourcebooks on ..." the book is literally a "sourcebook" with many computer/internet addresses and references, and general instructions on where to find things. That is 95% of the book, and there is very little factual information about HSP, except for a few actual reprints of abstracts from well-known authorities, some of whom have had research grants from the Spastic Paraplegia Foundations. Examples: Dr. Fink, Dr. Hedera (Michigan); Dr. Marchuk (Duke). It is a compendium of practical knowledge in many patient-related areas, such as insurance, nutrition, finding medical libraries, the National Institutes of Health. It is a good book, for its intended purpose, but I don't think its intended purpose matches our intended needs.

Exercise

Contributed by John K. Fink, M.D., Professor, Department of Neurology, University of Michigan

The physiologic effects of exercise in individuals with either PLS or HSP have not been well studied. It is true that for conditions in which the primary disorder involves the muscles (such as some forms of muscular dystrophy), vigorous exercise is to be avoided.

In most forms of HSP and PLS, the muscles are healthy. Increased muscle tone (spasticity) is due to disturbance in the spinal cord (not due to a primary abnormality in the muscles). In these conditions, exercise appears to provide benefit. (This view is based on the reports of many individuals with HSP and PLS who exercise and state that it provides increased endurance and increased ability to walk).

There could be a theoretical concern about excessive exercise for types of HSP due to mitochondrial disturbance (such as due to paraplegin gene mutation). Such forms of HSP are relatively uncommon.

My general advice for individuals with HSP and PLS is to pursue daily regimen of stretching, strengthening, and balance exercises. I recommend that there be weekly, monthly, bi-annual, and annual goal-setting aimed at

increasing (slowly !) strength, balance, and endurance. We are looking to make small gains (which will be summated slowly over time) and maintain and improve endurance and cardiovascular fitness.

Eating at Home, Simplified

Home Bistro meals come to you cooked and flash frozen. We create great recipes. We do all the time-consuming things. We shop and we chop. We mix, blend, and sauté. We grill the steaks, roast the lamb, poach the salmon. All you need to do is follow the simple instructions to heat and serve our meals in about 10 minutes. It's that easy. Low sodium, low fat, and diabetic offerings are available. www.homebistro.com 1-800-628-5588.

Another help in the kitchen, but one you assemble in their kitchen is Dream Dinners. An innovative concept in meal preparation Dream Dinners eliminates menu planning, shopping, prep-work and clean-up by moving the meal assembly process out of people's kitchens and into specially equipped stores. Dream Dinners' guests preview a monthly menu online at www.dreamdinners.com and select their dinners from a menu featuring entrées such as Herb-Crusted Flank Steak and Citrus Ginger Salmon. Then they register to attend a meal assembly session at the nearest Dream Dinners store location, and pay for their session online. There are 225 locations throughout the US where you sign up to assemble your chosen meals.

Travel Abroad

Egypt

Contributed by Gary Norton, PLS, Texas

I just returned from a trip to Cairo, Egypt and had the best trip/vacation I've ever had. If you have an extra scooter, take it with you! I was offered seven camels in trade for the scooter. I had fun in the bazaar with the vendors: beep my horn and holler, "Taxi". We all would laugh and have the best time. They were puzzled to the fact there was not a twist throttle or the sound of a moped. It being electric was difficult for them to grasp. Other countries are not as handicapped friendly as

the US, but the people will bend over backwards to help you. Almost every store, temple, palace, hotel, and everything else will have steps and very few of these places have handicapped ramps. If you are able to climb up and down stairs with a cane and a hand rail, do it. The scooter will be waiting for you when you have finished negotiating the stairs. The additional exercise is good for you. Our driver (poor guy) would load and unload the scooter from the van and be there to assist me in and out of the van. I'm sure he was glad to see that scooter leave!! However, he was tipped generously. Oh, by the way, they drive a little differently than we do. Be ready for an adventure!!!

If you have not traveled through the airports with a scooter, have no fear. They make it so easy for you. Let the ticket agent know you are taking the scooter to the plane. They'll let you drive it to the door of the plane and they will assist you to your seat with a small wheelchair that just fits in the aisle of the plane or you can chair walk to your seat. Letting them know this, you are first to get on the plane and last to get off, giving them time to get the scooter off the plane and ready for you. Make sure that you take the key off the scooter and place it in neutral. If you have to go from the gate to the plane on the ground, they put you in the back of a lift truck and take you to the door of the galley.

Thailand

Contributed by Bonnie Guzelf

We're planning on going to Thailand with Adventure Holidays, Thailand.

[http://www.adventure-holidays-](http://www.adventure-holidays-thailand.com/start.html)

[thailand.com/start.html](http://www.adventure-holidays-thailand.com/start.html) +66 38 233 502 If you give Tom your home phone, he will call you from Thailand! Tom, the owner is British, his wife is Thai and she has MS ..That is how Tom became involved with tours for the disabled. The website does not give prices, because each tour is individualized for the people taking the tour. The price includes an accessible van, a private driver, a private guide, all 4 star hotels, all meals, all inter country flights and transportation all sightseeing....all accessible. Yes, we are doing a 3

hour elephant trek, a river rafting cruise, a cruise on the floating market, a dinner cruise, lots of temple and palaces and of course shopping! Also we will spend a few days on the beach. I can go parasailing or jet skiing if I want to...I'll have to think about that one!

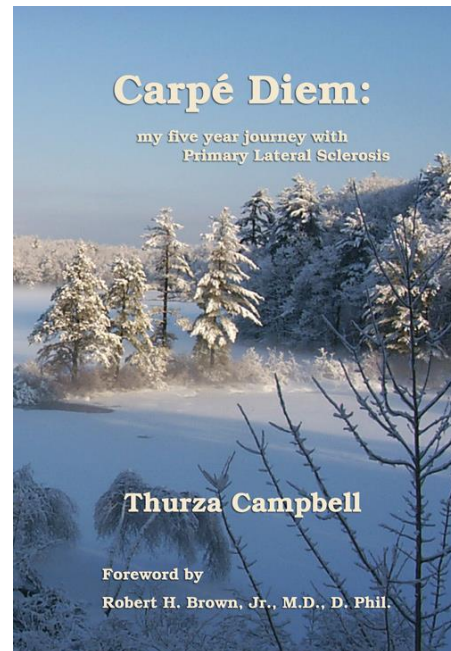
Zero-gravity Simulated Space Trip

Stephen Hawking, the British cosmologist, Cambridge professor and best-selling author who has spent his career pondering the nature of gravity from a wheelchair, says he intends to get away from it all for a little while.

On April 26, Dr. Hawking, surrounded by a medical entourage, took a zero-gravity ride out of Cape Canaveral on a so-called vomit comet, a padded aircraft that flies a roller-coaster trajectory to produce periods of weightlessness. He is getting his lift gratis, from the Zero Gravity Corporation, which has been flying thrill seekers on a special Boeing 727-200 since 2004 at \$3,500 a trip.

Peter H. Diamandis, chief executive of Zero G, said that “the idea of giving the world’s expert on gravity the opportunity to experience zero gravity” was irresistible. Dr. Hawking says he wants to encourage public interest in spaceflight, which he believes is critical to the future of humanity. “I also want to show,” he said in an e-mail interview, “that people need not be limited by physical handicaps as long as they are not disabled in spirit.” Lawrence M. Krauss, a cosmologist from Case Western Reserve University, who once took him down in a submarine, said, “Stephen is a dreamer and an adventurer who enjoys the opportunities his celebrity brings in a way that happily perhaps compensates, although only minuscule, for his physical affliction.”

Carpe Diem: my five year journey with Primary Lateral Sclerosis has been published by Thurza Campbell. The book chronicles her adjustments both physical, psychological and emotional since diagnosis – grief and joy, letting go and adjusting.



Dr. Robert H. Brown wrote the Foreword, which concludes, “. . . No doubt we will all react differently to this set of poems... For those of us on the medical side, this is yet another motivation to do more to understand and treat these disorders and, at the same time, to remember that beneath the abstract concept of a disease with long names there is always a person. Whatever our backgrounds, we are all lucky to have this collection of Thurza’s poems.” From a reader, “. . . What an inspiring, funny, sad, serious, beautiful collection. Your work is so honest and unadorned with over- sentimentality. It made me laugh and cry. . .”

From *The Uninvited Guest*

“An uninvited guest it seems
has set up residence
within our home and life has changed
profoundly ever since. . .”

From *Community*

“What is your community?
Where do you site the bounds?
Is it just your family?
The borders of the Town?...”

Once printing expenses have been covered, all funds will go to research. Copies are available for

\$23.00 each, including tax, and shipping. Please send a check made out to:

James Campbell
212 Farm Rd.
Sherborn, MA 01770-1622

CAREGIVING

Personal Care Attendant Guidelines

Condensed from "Quest" March-April 2007

For the relationship to be successful, both the personal care attendant (PCA) and the consumer need to understand their roles and what's expected of them. These guidelines are from Norma Vescovo, executive director of the Independent Living Center of Southern California in Van Nuys.

1. Put everything in writing as soon as possible. This allows you both to read and sign the same agreement, thereby avoiding conflict.
2. The consumer/PCA relationship should be a business relationship. Don't forget that you're the employer, and your PCA is working for you.
3. If you're not happy with your PCA's behavior, ignoring the situation won't make it go away. Instead, face the problem, challenge it and move on. Don't forget that you're in control of your own life.
4. Always have a backup PCA.
5. Do background checks on potential assistants.
6. Be careful whom you trust with your money, for example your ATM or credit card.
7. Sometimes problems can't be solved, and you just have to fire your PCA. In his book *Caregivers and Personal Assistants* (Saratoga Access Publications, 2002), Alfred H. DeGraff suggests writing down what's not working with your PCA and being logical about the decision to fire him or her.
8. If you're having an issue with your PCA, contact your local independent living center for more tips on resolving the problem. By facing the issues head-on, you show your PCA that you're strong, intelligent and deserve to be treated with respect.

Caregiving – a plea from a patient, and advice from a caregiver

Anonymous

Guys I really need your help. Please. I go to counseling but my husband says we can't afford it. I say, "we can't afford not to." For a while now he would joke about putting me in a rest home. The other day he said it, and I came back with, "Oh! You can afford to pay to put me away?" He, still joking says "You mean insurance won't pay so that I can go on with my life and have young hotties come over?" I said "of course not". His face got real serious and he said, "You mean my life is over too?" I told him, "It doesn't have to be." He didn't want to talk about it any more. He just quietly walked away. Seriously, what is there for couples who have none to very moderate income when one is in a wheelchair and the other is walking and can still have a good time.

A reply from a male caregiver:

I sense your husband (I'll call him Joe) is dealing with a combination of conflicting issues. I say that because I have and still do experience dark periods of doubt, frustration, fear, anger, self-pity and denial. The male ego doesn't adapt well to things that can't be fixed with a twist of a wrench, some duct tape, a couple stiff drinks or a click of the TV remote. Our unwillingness to address the real issues blocks access to compassion, understanding and acceptance. Our defense mechanisms open escape routes which lead to paths of least resistance. Humor (often ill-timed and unintentionally mean spirited) provides a temporary buffer from reality, yet we know full well the harsh truth is looming on the other side.

A message to Joe:

Get over it and deal with the facts. This disease is in your life-it's not going away-there is no cure and it may get worse. No one asked for it...none of us did. All the whining, poor me, I'm the victim, my life is ruined bullshit will only make a tough situation worse. If the roles were reversed, how would your wife handle it? Would she wallow in self-pity and play the martyr, or step up to the plate to help her ailing spouse in every way possible? Remember the phrase "...in sickness or

in health.."? What kind of commitment do you think you were making when you said it? Counseling is available free of charge through churches, support groups and this very site. Is it really a matter of finances, or are you just too weak to handle life on life's terms?

MEDICAL UPDATES

PLS Registry at Northwestern University

The PLS Registry is growing, thanks to people who are learning about us through Synapse, the Spastic Paraplegia Foundation, PLS Friends, the ALS-PLS website, neurologists, nurses, and support groups. The registry now has 202 blood samples stored from patients with a PLS diagnosis at the time of the sample. Siblings and parents are also donating samples for family studies, and spouses are donating for control samples.

As all who are close to PLS are certainly aware, the causes of this motor neuron disease are still unknown. We are trying to determine whether genetic factors may predispose an individual to developing PLS, and the team suspects that PLS may be the result of not one, but several, genetic factors coming together and interacting with environmental influences to produce disease. Advances in the field of statistical genetics make it possible to answer questions about possible genetic factors if there are sufficient study participants available. The continuing goal is to have samples and information from every person in North America who is known to have PLS, and we welcome and encourage all to join the registry. We are also contacting earlier members to request updated medical records to confirm the diagnosis before beginning analysis, and will request information on environmental risk factors when our new questionnaire has been finalized. We are collecting samples of cerebrospinal fluid (CSF) as well. Because we realize that not all PLS patients are willing to have a spinal tap for research, this is not required for participation. However, if this is something the participant is

willing to do, we are collecting samples to study the CSF proteins. We now have 7 CSF samples in the PLS databank.

For more information on the PLS Registry, please contact:

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Medical Research Summaries

Differences Between PLS & ALS

Source: Arch Neurol. 2007 Feb;64(2):232-6.

<http://tinyurl.com/3yp2mj>

Tartaglia MC, Rowe A, Findlater K, Orange JB, Grace G, Strong MJ.

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Differentiation between primary lateral sclerosis and amyotrophic lateral sclerosis: examination of symptoms and signs at disease onset and during follow-up.

Background: Motor neuron diseases can affect the upper motor neuron and/or the lower motor neuron. Both amyotrophic lateral sclerosis (ALS) and primary lateral sclerosis (PLS) are motor neuron diseases, and there is much debate as to whether these are 2 separate disorders or simply 2 points on a continuum.

Objective: To determine which clinical features at onset and during follow-up could help differentiate between PLS and ALS. 661 patients with ALS and 43 patients with PLS were included in the study.

Results: At presentation, stiffness was the only symptom that was significantly different between patients with PLS and patients with ALS. During follow-up, limb wasting was rare in patients with PLS. Disease duration was significantly longer in patients with PLS compared with patients with ALS. During the 16 years of follow-up, the mortality rate was significantly lower in patients

with PLS compared with patients with ALS.
Conclusion: Our findings suggest that a patient presenting with spasticity who does not develop wasting within 3 years most likely has PLS.

Differences between ALS & PLS

Source: J Neurol. 2007 Feb 9; [Epub ahead of print]

<http://tinyurl.com/39bre8>

Turner MR, Hammers A, Al-Chalabi A, Shaw CE, Andersen PM, Brooks DJ, Nigel Leigh P., Dept. of Neurology, The Radcliffe Infirmary, Woodstock Road, OX2 6HE, Oxford, UK, turnermr@doctors.org.uk.

Four PLS patients underwent cerebral [(11)C]-flumazenil PET. They were compared firstly with a group of controls, then later directly with a group of sporadic ALS patients and a familial ALS group homozygous for the 'D90A' SOD1 gene mutation. There was a similar pattern of decreased binding in PLS patients when compared to controls as that seen in a previous study of sporadic ALS patients, supporting the concept that PLS is part of the same overall spectrum of MND. However, in direct group comparisons, both sporadic and homD90A ALS patients demonstrated relative decreases in anterior and orbito-frontal binding compared to PLS patients, suggesting that there may be differences in cortical vulnerability between phenotypic groups.

Research in Dr. John Fink's Lab

There are lots of things going on with HSP and PLS research, both nationally and internationally. The two things they are currently working on in their lab are Cell Culture Models and Alsin Models. There are three kinds of models that researchers can work with. They are Bio-Chemical Models, Cell Models and Animal Models. He is currently working more with cell models because they are less expensive, many more experiments can take place in the same amount of space and screening techniques are more controlled. The disadvantages are that neurons don't exist by themselves in nature and

so experiments with them in solo often do not reflect a real world environment. Surrounding cells keep motor neurons alive. They can do many more simple experiments and then take the results that seem particularly significant and try to reproduce them with animals.

Currently Dr. Fink said he is doing Alsin studies by using RNA interference techniques to create defective Alsin protein in neurons in cell culture outside of any animals. He is trying to design a method to mathematically measure gradations of effect with the chemicals they plan to test with these cells. He wants an automated method to measure whether certain proteins that are characteristic of long neurons are more or less present and how much. They want to use protein markers that stain proteins common to the ends of long axons. The plan is to apply chemicals to try to rescue the cells so they will begin building these neurons that are not being built due to the lack of Alsin in the cell. He said they have over 30,000 chemicals that they want to test. These chemicals are produced by pharmaceutical companies. Some of these chemicals have a current use and some do not. The dishes they plan to use can hold over 392 different chemicals. The screening should take from two to three weeks. They can then use different variations and dosages of the most seemingly effective chemicals for a follow up test and then in about 24 months take the most promising chemicals to follow up animal studies. Dr Fink said that the design of such an experimental system is much like being on a deserted desert island where great success can be found in being able to make a nail or a rope to start building a boat. We are hoping to invent our nails and rope.

Another avenue they are working on is to try to develop a bio-marker system to measure the progress of HSP in patients. Currently they can see progress of HSP over a long period of time but it is very difficult to measure the progress of HSP over a 1 to 5 year period. Certain situations like exercise or baclofen may make the patient feel better and walk better while the actual HSP condition continues to progress. He wants to find

a method to measure this progress. The purpose of such a measurement system is to be able to determine whether any drugs or therapy is improving the HSP condition of the patient. He used the metaphor of a charging elephant. If something could be done to slow down a charging elephant by something like 30%, you would want to know about this method and be able to use it as the elephant charges. The HSP condition is slowly charging and it will be helpful to know whether it is being slowed down, by what and by how much.

Congressional Stem Cell Update

On April 11, the Senate passed the Stem Cell Research Enhancement Act (S. 5) with a bipartisan vote of 63-34. S. 5 is modified from the version passed by the House in January (H.R. 3). It not only seeks to overturn the Administration's ban on federal funding for research on new embryonic stem cell lines, but also includes language that encourages the National Institutes of Health (NIH) to pursue other forms of stem cell research.

Insight into one Cause of ALS

Two papers by Columbia and Harvard researchers report for the first time that astrocytes (the most abundant non-neuronal cells in the central nervous system), which carry a mutated gene known to cause some cases of amyotrophic lateral sclerosis (ALS/Lou Gehrig's disease), induce motor neuron death. This indicates that astrocytes may contribute to ALS by releasing a toxic factor that damages neurons. These findings, posted online by *Nature Neuroscience* on April 15, suggest that developing an effective therapy for ALS would require overcoming the destructive effects of astrocytes and replacing the damaged motor neurons, possibly by transplanting motor neurons derived from embryonic stem cells. In ALS, there is a progressive degeneration of motor neurons, leading to paralysis and eventual death. In single cell culture studies at Columbia University Medical Center, Serge Przedborski, M.D., Ph.D., co-director of the Center for Motor Neuron Biology and Disease, and his colleagues found that astrocytes expressing a mutated form

of a gene, superoxide dismutase (SOD1), killed only the neurons that degenerate in ALS, not other types of neurons, and that this was due to a soluble toxic factor released by the astrocytes. If this toxic factor can be identified in future studies, this finding may offer novel strategies for ALS therapy.

"It was previously thought that astrocytes were merely spectators watching their neighboring motor neurons die," said Dr. Przedborski, who is the Page & William Black Professor of Neurology and professor of pathology and cell biology at Columbia's College of Physicians & Surgeons. "With these results, we have learned they are not just spectators, they are major players. The astrocytes and their cellular environment are specifically causing motor neuron death.

"If these cell culture findings are faithfully modeling the situation occurring in ALS, then blocking the toxic factor released by astrocytes as early as possible could become an effective neuroprotective strategy against this disease," Dr. Przedborski added. "Currently, we diagnose ALS at a point when a large number of motor neurons are already gone. As we learn more about astrocytes and the toxic factor or factors they release, we may be able to screen people for elevated levels of these proteins and intervene in a tangible way perhaps even before a person displays any clinical sign of ALS."

Dr. Przedborski's vision is to eventually test for the "biomarkers" of astrocytes and toxic factors in human ALS patients and then neutralize these factors early in the process thereby stalling or eliminating the degeneration of motor neurons and the onset of debilitating ALS symptoms.

ALS Research Journal News for March 2007

Ed. Note: I have shown only a sampling of one month's research. These are truly exciting times. Please check out

<http://www.alsa.org/research/journals.cfm> for two years of listings.

Roberta Friedman, Ph.D., Research Department Information Coordinator While this summary is not exhaustive, it does include some of the most

recent advances..

Gene Findings and ALS: Initial Results, Tantalizing Hints

Genome analysis data obtained for sporadic ALS and neurologically normal control samples at the National Institute of Aging and colleagues are detailed in the *Lancet Neurology* publication.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=17362836&query_hl=9&itool=pubmed_docsum

Garth Nicholson, M.D., Ph.D., and collaborators at ANZAC Research Institute, Concord Hospital, Sydney, Australia, reported a new gene location for motor neuron disease on chromosome 7 and narrowed the area to search for mutation. The family studied has affected individuals with a disease described as a juvenile ALS and distal hereditary motor neuropathy. Findings are published in *Human Genetics*.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=17354000&query_hl=2&itool=pubmed_docsum

Microglia Behave Abnormally in ALS

The behavior of microglia in the rat with mutation to copper, zinc superoxide dismutase (SOD1), is abnormal even prior to symptoms, according to a detailed histology study published in the *Journal of Neuroinflammation*. Investigators at the University of Florida in Gainesville, led by Wolfgang Streit, Ph.D., show that with symptom onset the glia have formed multinucleated giant cells by fusing together evident in many areas of the spinal cord and brain stem. Apoptosis did not seem to be involved in this abnormal glial activity.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=17328801&query_hl=2&itool=pubmed_docsum

Astrocytes Support the Development of Neurons Derived from Human Embryonic Stem Cells

Su-Chun Zhang, M.D., Ph.D., at the University of

Wisconsin, Madison, and colleagues reported in the *Journal of Neuroscience* that the neurons generated from human stem cells in the lab depend on surrounding astrocytes to develop. Apparently the astrocytes are helping the neurons through the contacts they make, which allow the neurons to begin to generate their normal electrical signals to communicate to the neighbor neurons.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&list_uids=17376968&dopt=Abstract

Caregiver Burden in ALS

In *Neurology* a report shows that on average, ALS patients do not report increased depression as their disease progressed over a nine month period, but the caregivers perceive stress and burden of care. The findings of the team led by Italian investigator Adriano Chio, MD, with the University of Torino, may reflect acceptance by the patient, or their cognitive impairment, the researchers concluded.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=17372127&query_hl=2&itool=pubmed_docsum

A report in *Neurology* by investigators at the Mayo Clinic, Rochester, Minn., suggests referral bias can arise if survival time is used as a measure of ALS progression. Clinical trial planners should take into consideration that patients who choose a multidisciplinary or tertiary care clinic may have differences in disease progression that can skew survival data, Eric Sorenson, M.D., and colleagues concluded.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=17310031&query_hl=6&itool=pubmed_docsum

Japanese Researchers Model Potential Therapeutics on Ubiquitin Enzyme

Dorfin is a ubiquitin ligase that breaks down mutant SOD1 proteins. According to findings published in *Neurobiology of Disease*, Nagoya University investigators working with Gen Sobue,

M.D., have made molecules to mimic this usually short lived enzyme. The result was more rapid destruction of SOD1 mutant protein by the ubiquitin system that removes cellular trash. Cells were protected in lab dishes by the compounds, the investigators reported.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=17157513&query_hl=1&itool=pubmed_docsum

Protein Linked with SOD1 Mutation in Mice

A protein is increased in mice that mimic ALS, even before symptoms appear, according to research by Kenneth Hensley, Ph.D., and colleagues at the University of Oklahoma, Oklahoma City, reported in *Biochemistry*. The protein is called lanthionine synthase C-like protein, and it is involved with glutathione, a cell scavenging system protecting cells from potentially harmful metabolic products as well as toxins.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=17305318&query_hl=6&itool=pubmed_docsum

Reviews on Axon Dynamics, Cognitive Change

In a review article in *Archives of Neurology*, Catherine Lomen-Hoerth, Ph.D., and colleagues at the University of California, San Francisco, discuss the decade's progress in linking cognitive changes in ALS to the changes in frontotemporal dementia and strategies to help diagnose and find new therapies for this wide clinical spectrum.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=17353375&query_hl=9&itool=pubmed_docsum

Photos from SP National Conference in Nashville, TN 13-15 April 2007



SP National Conference speakers: Dr. Richard Bedlack, Dr. Peter Hedera & Dr. Mary Kay Floeter



SP Foundation President Annette Lockwood with Jim Sheorn, chair of the 2007 SP Foundation National Conference



SP Hall of Fame: (l-r) Jane Anne King, Mark Dvorak, Dr. Fink, Annette, Betsy Baquet, Nancy Shaidnagle, John Swain, Linda Gentner, Mark Weber & Thurza Campbell



Annette recognizes SP Founders Dr. Fink and Mark Weber with gifts of appreciation



SP Board: (l-r) Malin Dolan, Dr. Fink, Jim Sheorn, Jean Chambers, Larry Asbury, Annett, Frank Davis, Linda Gentner and Mark Weber



SP Board member Karen Johnson greets friends at the conference



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