

Polio Outreach Of Washington

State of Washington, Non-profit Corporation

“MISSION STATEMENT”

To minimize the impact and increase awareness of Polio/Post-Syndrome by providing education and support to Polio Survivors, their families and healthcare providers.

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“POLIO OUTREACH HEADLINES”

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Hypoventilation? Obstructive Sleep Apnea? Different Tests, Different Treatment

By: Judith R. Fischer, MSLS, Editor, “Ventilator-Assisted Living”
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Thanks to Josh Benditt, MD, University of Washington, Seattle Washington benditt@u.Washington.edu); Peter Gay, MD, Mayo Clinic; Diana Guth, RRT, Home Respiratory Care, Los Angeles (Diana@hrsleep.com); E.A. Oppenheimer, MD (retired) Los Angeles; and Jesper Qvist, MD, Respiratory Centre East, Copenhagen, Denmark (jg@dadlnet.dk), for their assistance.

People with neuromuscular disorders may be misdiagnosed and mistreated when they encounter breathing and sleep problems. Many general practitioners, and even some pulmonologists, neurologists, and sleep physicians, may not fully understand respiratory insufficiency and physiology in this group.

Hypoventilation: Generally, in people with neuromuscular disorders who are having breathing problems, the main problem is hypoventilation (underventilation) - not breathing deeply and/or often enough. Muscle weakness, scoliosis and/or chest wall stiffness make it difficult or impossible to fully inflate the lungs.

Hypoventilation results in an imbalance in the carbon dioxide (CO₂) and oxygen (O₂) exchange in the blood - too much CO₂ is retained, too little CO₂ is taken in. Because hypoventilation usually first occurs during sleep and because several of the signs and symptoms overlap, it can be misdiagnosed as obstructive sleep apnea (OSA).

EDITOR'S NOTES

My husband John and I had the wonderful opportunity to attend the Vancouver Polio Symposium in Vancouver BC Canada on March 30 - April 2, 2006. A total of 19 people attended from Polio Outreach Of Washington. We have published one articles from the speakers at the conference. It is noted by a * in the “POOW Headlines” above. Others will appear in later issues. It was a GREAT symposium and we met and chatted with many Canadians and had a wonderful time. It was very organized and had Great Food and entertainment. This conference is not held every year. Usually about 2 to 3 years. When it comes up again we for sure will let you know.

Vivian J. Clark, Newsletter Editor

Although any trained health care professional can perform simple pulmonary function tests (PFTs) of breathing ability during an office visit, the tests are most likely to be performed by a pulmonologist, neurologist, nurse, or respiratory therapist. The challenge lies in understanding the results of these tests in the context of a person with neuromuscular disease.

Two important measurements of your ability to breathe deeply are the forced vital capacity (FVC) and maximum inspiratory pressure (MIP or PiMax). The SNIP (sniff nasal inspiratory pressure) test has been shown, in some studies to be a more sensitive test of respiratory muscle weakness, but it is not widely used in the USA.

Forced vital capacity measures the volume of air you can breathe in and then blow out quickly and completely through a device called a spirometer. It should be measured in both the upright and supine (lying face-up) positions, because you can't breathe as efficiently lying down.

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Different Tests, Different Treatment

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Another simple test that measures the strength with which you can breathe in is the MIP. A mouthpiece is attached to a negative pressure gauge via a narrow tube. With a noseclip pinching off the nostrils, you exhale and then suck on the mouthpiece as hard as possible; the gauge registers the pressure. A result of <50% predicted FVC or a MIP <60 cm H₂O may signal that it's time to get some assistance with breathing.

However, the most important factor in diagnosing Hypoventilation is an elevated level of CO₂ (above 45mm Hg). This can be measured invasively with an arterial blood gas (ABG) analysis or noninvasively using exhaled end-tidal CO₂ monitoring or transcutaneous CO₂ monitoring.

The pattern seen on an overnight oximetry tracing may also be helpful for identifying early hypoventilation often seen first during the deepest rapid-eye movement (REM) sleep stage.

Signs and symptoms of nocturnal hypoventilation may include one or more the following:

- ◆ fatigue or exhaustion after normal activity;
- ◆ excessive daytime sleepiness;
- ◆ shortness of breath, breathlessness with minimal activity;
- ◆ claustrophobia or feeling that air in room is somehow bad;
- ◆ difficulty in speaking for more than a short time;
- ◆ quiet speech with fewer words per breath;
- ◆ inability to lie flat while awake due to shortness of breathe;
- ◆ inability to lie flat during sleep/ need to sleep sitting up (orthopnea);
- ◆ trouble falling asleep and trouble staying asleep;
- ◆ anxiety about going to sleep

Other signs and symptoms, which may also be seen in OSA, include:

- ◆ excessive daytime sleepiness and need to nap during the day;

(Continued in next column.)

Other signs and symptoms...

- ◆ nightmares, night sweats, bedwetting, or need to urinate frequently;
- ◆ morning headaches;
- ◆ restless/fragmented sleep and frequent awakenings;
- ◆ shallow breathing or cessation of breathing for 10 seconds or more;
- ◆ awakening from sleep with choking sensation;
- ◆ worsening mental status, impaired memory, concentration, cognition.

Do not ignore these signs and symptoms hoping they will go away. They are serious. You may need evaluation and treatment immediately!

The treatment for hypoventilation is NOT oxygen but assisted ventilation, generally at night, with a bi-level ventilator. Bi-level units that offer the S/T mode (the unit operates in a spontaneous -S- mode, meaning the user can spontaneously initiate each ventilator breath, but switches to a time -T- mode, referred to as the backup rate, when breaths are not initiated by the individual) are recommended for people with neuromuscular disorders.

Bi-level ventilators provide pressure support ventilation which is achieved by the difference in two set pressures: IPAP (inspiratory positive airway pressure) and EPAP (expiratory positive airway pressure). The IPAP and EPAP pressure setting can be adjusted separately.

People with neuromuscular disorders have more trouble breathing in. They generally need IPAP that is set at least 5-10 cm H₂O higher than EPAP and EPAP that is set at the minimum level. Higher EPAP makes it too difficult for them to exhale. "In my home care company, we start out people new to bi-level with 'training wheels' - a minimum span of 5 cm H₂O. After they become acclimated to the treatment, we increase the span if the individual is more comfortable and/or needs more volume," says Diana Guth, RRT.

For reimbursement of a bi-level unit in the USA by Medicare, the requirements are a diagnosis of a progressive neuromuscular disorder, absence of chronic obstructive pulmonary disease (COPD) or if present it does not significantly contribute to the individual's respiratory limitations, and one of the following test results:

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Different Tests, Different Treatment

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1. FVC <50% of predicted,
2. MIP <60 cm H₂O,
3. PaCO₂ arterial blood gas >45mm Hg,
4. Nocturnal SpO₂ (oxygen saturation) <88% for five continuous minutes while asleep.

Obstructive sleep apnea (OSA). Apnea is the cessation of airflow for more than 10 seconds. OSA occurs when tissues in the throat collapse, intermittently blocking airflow during sleep. Snoring is often a major indicator of OSA, but not always.

A sleep study (polysomnogram test or PSGT) is primarily used to determine and design treatment for individuals with OSA. A sleep study is not absolutely necessary for the diagnosis in people with neuromuscular disorders but it may be helpful when first introducing the bi-level treatment.

The main breathing problem is almost always hypoventilation, although people with neuromuscular disorders early on may also have undiagnosed OSA. Most sleep labs are not equipped to measure CO₂ levels, and therefore cannot diagnose hypoventilation.

The standard treatment for OSA is continuous positive airway pressure (CPAP) to help keep the airway open or a bi-level unit without a backup rate.

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THE FIRST WEALTH
IS HEALTH - Emerson

It's an old truth, but one
which bears repeating.

The person who wants to work and to live life
to the fullest cannot take health for granted
and must take care in preserving it.

"HE WHO HAS HEALTH HAS HOPE -
HE WHO HAS HOPE HAS EVERYTHING"

Guard your health as if it were
your most precious possession.

IT IS !

"INFLAMMATION & PPS"

By: Marcia Falconer, Ph.D.

Dr. Falconer presented this paper at the 2006 PPASS Symposium in Vancouver, British Columbia -- March 30 --April 2, 2006. Permission granted to reprint this article granted by Dr. Marcia Falconer.

Post-Polio Syndrome (PPS) has been a recognized condition for more than 25 years, with reports of similar symptoms going back to the 1800's. However, we still do not have a grasp of the underlying cause, or causes of PPS.

We do not know how many polio survivors will develop PPS; estimates range from 10% to over 80%.

We do not know why some polio survivors develop PPS and others do not. There is no diagnostic test and PPS remains a diagnosis arrived at after exclusion of other somewhat similar conditions. We do not understand why there is a lag time between recovery from the acute illness and development of symptoms severe enough to compromise the quality of life.

It seems there is very little that we do understand about PPS. However, if we can discover the underlying causes of PPS; if we can find out what is happening at the cellular and even subcellular level, there is promise of being able to answer all of these perplexing issues. There is also promise of being able to treat, and possibly even prevent, the onset of many perhaps most, PPS symptoms.

Little research has been done on PPS, probably because polio survivors are a dying breed.

After world wide eradication of polio, the 'lifespan' of PPS will be equal to that of the youngest living polio survivor. Or will it? Poliomyelitis continues to cause paralysis although now the virus causing the illness is not the polio Virus but the West Nile Virus, or enterovirus 71, or one of several Cocksackie viruses.

The nerve damage caused by these viruses is virtually identical to that caused by the polio virus and therefore it is likely that PPS, perhaps by then called Post-Viral Syndrome,

will continue to bring new limitations to survivors many years after they thought they had recovered. So it remains important to examine the underlying cause of new muscle weakness, central fatigue, pain, memory and word finding problems and other symptoms that accompany PPS.

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INFLAMMATION & PPS

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Fortunately, current research in other areas holds great promise for explaining what is happening to so many polio survivors.

The cause of virtually all PPS symptoms can be explained by one word: inflammation! Front line research in the fields of neurology, immunology, physiology and virology is coming together and the many pieces of the puzzle are being laid upon the table.

A good analogy is to think about a jigsaw puzzle. When you dump a 1000 piece puzzle out of the box, some pieces land right side up, others upside down. There is little hope of assembling the puzzle until you turn all the pieces right side up. The next step is to put all the straight edge pieces in a pile and then assemble the outer edge of the puzzle to give you a general outline. After this it is helpful to group pieces with similar patterns or colors together.

This is approximately where we are today in our understanding of how inflammation is related to almost all chronic diseases;

PPS, MS, ALS, CFS, Parkinsons, irritable bowel syndrome, arteriosclerosis and many, others. This also gives you some idea of how far we have to go until we have a complete picture! Let's look at the puzzle pieces that seem to belong to PPS.

Inflammation has two major causes;

Injury (including viral and bacterial infection, cuts, strains, operations, etc.) and psychological stress (including major events such as death of a relative, divorce, and job loss, but also including milder, repetitive stress that is encountered every day). In a person with PPS, when the body suffers an injury, such as physically overdoing by climbing too many stairs, walking on uneven ground, etc., the first reaction is for the cells in the affected area to release a chemical messenger. This messenger, called a proinflammatory cytokine, tells specialized cells, whose job it is to protect you from invading organisms, to come to the site of the injury. At the same time the proinflammatory cytokines activate resident cells and cells that have migrated to the injury and all of them produce more proinflammatory cytokines setting up a cascade of events that will involve the entire body.

Two proinflammatory cytokines, Interleukin-1 and Tumour Necrosis Factor-alpha, are especially important in triggering an acute immune response, the body's first line of defense. The acute immune response involves developing a fever, fatigue, loss of appetite, sleepiness and other symptoms. It goes away within a few days.

(Continued in next Column.)

However, if the injury is repeated often -- say if a person with PPS persists in exercising a stressed out muscle -- then a chronic immune response will set in. The response to chronic stress involves the entire body including the brain, and produces central fatigue, new muscle weakness, problems with short term memory and word finding, irritable bowel syndrome and other symptoms.

Recognize them? Indeed.

These are the post polio syndrome symptoms we are so familiar with. In an effort to keep this article shorter than a textbook on immunology, I have omitted the complex chain of events that takes place in the body between the original stress and the onset of PPS symptoms. There are many, many research papers that amply document what happens in the body after activation of the immune system by proinflammatory cytokines and that eventually results in symptoms identical to those of PPS.

Let's take a brief look at how proinflammatory cytokines may be the underlying cause of new muscle weakness.

We begin with acute polio and the death of a large number of nerves whose job was to innervate muscles by telling the muscles to contract or relax and thereby allowing you to move a leg or an arm. If 60% of the nerves leading to a leg or arm died, the limb was paralyzed. When fewer nerves died the result was varying degrees of muscle weakness.

In many people, original paralysis or severe weakness eventually resolved; voluntary movement was restored and you could once again use your arm or leg. The body developed a neat trick to allow this to happen. The surviving nerves were able to send out 'neuronal sprouts' to attach to and innervate muscles that had been orphaned when the nerve originally attached to them died off. Thus the surviving nerves were able to activate not only the muscle that they always innervated, but also surrounding muscles creating something called a "motor unit".

This repair was essentially stable for many years.

However 30 or more years after recovery from polio, many people begin experiencing new muscle weakness. Often the weakness is in the 'good' arm or leg. This may be due to the fact that the 'good' arm or leg was used more. Clearly something happened to the neuronal sprouts; either they no longer could maintain full time attachment to the motor unit or else they have died off completely. This caused the appearance of new muscle weakness. Once again, I've simplified this a bit -- although the general picture is correct. But this is a description of what is happening, not an explanation of why it is happening.

Enter proinflammatory cytokines. Remember them?

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Researchers have well established that proinflammatory cytokines cause cells to release neurotoxic proteins. These neurotoxic proteins can damage or kill neurons by a number of mechanisms including changing the outer membrane of the nerve cell resulting in cell death or increasing reactive oxygen inside the nerve cell which also leads to cell death. It is probable that the neuronal sprouts, that have served so well for so long, are more fragile and may be the first target of proinflammatory cytokines in the central nervous system.

A very important fact is that nerve death only occurs in an activated immune system.

The next question is "do people with PPS have an activated immune system?" The answer is YES! There have been a number of research papers indicating that polio survivors with PPS symptoms have an "activated immune system", while polio survivors who do not report PPS symptoms do not have an activated immune system. [1]

A very recent research paper [2] looked at cytokines in people with PPS, polio survivors without PPS, people with multiple sclerosis (MS), a well known inflammatory neurological disease, and people who had no neurological problems. They found that people with PPS and MS have pro-inflammatory cytokines in their central nervous system, while polio survivors who do not have PPS and people without neurological problems do NOT have proinflammatory cytokines in their central nervous system.

What might cause the presence of these proinflammatory cytokines in people with PPS?

One hypothesis is the presence of very low levels of polio virus RNA hiding in nerve cells. This polio virus RNA is not capable of infecting you or other people, but is capable of triggering the production of proinflammatory cytokines and with that, an underlying state of "chronic immune system activation".

Other researchers have demonstrated a clear connection between the presence of proinflammatory cytokines and central fatigue [3]. Psychological stress -- the kind that does involve overdoing physically -- is perceived in the brain and the brain produces proinflammatory cytokines. This can cause profound fatigue, inability to concentrate and other symptoms [4].

Remember that 1000 piece jigsaw puzzle we have spread out on the table?

We are now able to put together some of the same colored pieces to make small pictures that are part of the larger picture. In the same way, we are piecing together what

happens when a person with PPS experiences physical or psychological stress. We start to see small pictures and we can just begin to discern the larger picture coming together.

We are coming to the place where it may be possible to treat PPS symptoms using anti-inflammatory medications.

A very exciting trial, using intravenous immunoglobulin treatment is currently underway in Sweden. Preliminary trials of this treatment in people with PPS have yielded dramatic improvements in fatigue and muscles strength! [5,6]

Other treatments to reduce PPS symptoms may be based upon traditional anti-inflammatory medicines such as aspirin, ibuprofen, indomethacin and others.

All treatments would have to be done under the supervision of your doctor, but in the meantime, there are some things you can do that are known to minimize inflammation in the body -- and with that you might have a reduction of PPS symptoms.

- **Meditation:** You might try meditation. Yes it works... if you do it consistently.
- **Exercise:** Appropriate exercise, under the guidance of a knowledgeable physiotherapist, will definitely lower inflammatory cytokine levels.
- **Pacing:** Pace yourself and don't overdo. This is easier said than done, but if you understand that seriously over using muscles will start the proinflammatory cascade of events and with that bring on or intensify PPS symptoms, perhaps you will be able to justify resting before you go too far.
- **Weight loss:** Adipose tissues -- commonly known as -- fat is also a producer of inflammatory cytokines. If you needed a good reason to lose weight, here it is.

Finally there are a few things you can try. Drinking green tea encourages weight loss and it has neuroprotective qualities. There are also reports that undenatured whey protein may be beneficial. These things are probably not as effective as direct medication to lower proinflammatory cytokine levels, but

ALERT - Some of you may still have a solicitation envelope whether you made a donation or not. The address on the front is the WRONG address. The treasurer has moved. Please destroy the envelope. THANKS SO MUCH!

Inflammation and PPS References:

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"INFORMATION ABOUT DR. MARCIA FALCONER"

Now retired, Dr. Falconer led a laboratory doing research in virology and molecular biology at The Centre for Food and Animal Research, Agriculture Canada Ottawa, Ontario, from 1993 to 2000.

Educational Background

- o Post-doctoral fellow in molecular biology at Massachusetts Institute of Technology (Center for Cancer Research), Cambridge, Mass. USA 1990-1992.
- o Ph.D. in neuronal cell biology from University of Ottawa, Ottawa, Ontario Canada. 1990
- o M.Sc. in cell biology from Carleton University, Ottawa, Ontario, Canada. 1985.
- o B.Sc. biology, Simmons College, Boston, Massachusetts, 1964.

Selected Published Articles

- o Co-author with Professor Edward Bollenbach, "Late Functional Deterioration in Non Paralytic Polio", *Am J. Phys Med & Rehab*, Jan/Feb 2000.
- o "Non Paralytic Polio and PPS", *A Lincolnshire Post Polio Network Newsletter Publication*, January 1999.
- o Other articles awaiting publication.

Polio Background

Marcia was quarantined with polio at age 7 (1949). She had leg and arm weakness followed by complete recovery. Led an active life: swimming, ice-skating and cross country skiing. PPS symptoms first noticed in 1985, with fatigue and leg weakness becoming severe by 1996. PPS diagnosed in 1998.



Intravenous Immunoglobulin Treatment for Improving Muscle Strength

Kristian Borg, MD, PhD, Division of Rehabilitation Medicine, Karolinska Institute, Daneryd University Hospital, Stockholm, Sweden, kristian.borg@ki.se

POST-POLIO SYNDROME, described as weakness and atrophy in skeletal muscles, occurs when there is a failure in capacity of a nerve cell body to maintain large motor units. The larger motor units are supported when the capacity for re-innervation is greater than denervation. Eventually this mechanism reaches an upper limit leading to muscle weakness. The cause of the denervation is unknown at the moment.

An ongoing inflammatory process in the central nervous systems of post-polio patients has been described in some studies, but has not been found in other studies.

Our study in 2002 found an increase of cytokine production in the central nervous system of post-polio patients.

We know that:

- Cytokine levels are greater when there is an inflammation.
- Cytokine levels are higher in people with multiple sclerosis (MS), a known neuroinflammatory disorder.
- The level of the increase in the post-polio patients was almost the same as in the MS patients. We checked older studies to see what work had been done.
- Dinsmore reported an effect of prednisone in high doses and the effect eroded as the doses were lowered.
- Ann Bailey, MD, at Warm Springs, Georgia, in the early '80s, treated 80 patients with oral vaccination, and 50 of those patients reported a positive effect on their symptoms. *

Due to her results and to the pattern of the cytokine increase, we began an open, uncontrolled study using intravenous immunoglobulin (IvIg) in 16 post-polio patients.

We were able to down modulate the cytokines, but what is the gain for the patient? We next developed a multi-center placebo-controlled study, double-blinded in 135 post-polio patients. (In the former study we used 90 grams of IvIg; 30 grams daily for 3 days.) In this study, we used 30 grams for 3 days, repeated twice. We noted an increase in muscle strength of 4.3% in the post-polio patients. In the placebo group, muscle strength was decreased by 5.7%. The natural course of decrease in strength was 5.7% in

Intravenous Immunoglobulin

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The benefit: Post-polio patients selected for the study had an increase in cytokine levels, indicating inflammation in the central nervous system. The inflammation was down-modulated by the intravenous immunoglobulin (IvIg) and down-modulated inflammation led to increased muscle strength and should result in a better quality of life.

* Using oral polio vaccine to treat PPS is not an accepted practice.

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An Illness Within An Illness?

Reprinted article from PPASS NEWS
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The following article was written while I was studying the causes and treatments of depression, and the impact this emotional state has on the general population.

While learning about the causes of depression, I discovered that drastic changes we experience throughout our lives can trigger depressive episodes. Ageing, chronic illness, and becoming disabled create circumstances which can be the cause of a major depressive episode in one's life.

My symptoms were: weigh loss; lack of concentration; and a lost sense of accomplishment or pleasure in my activities. I have never experienced recurring thoughts of suicide, and consequently felt that my depressive episodes were mild. A significant symptom of my depression was that it was difficult for me to recognize that my cognitive abilities were distorted; I did not realize that I was experiencing a mild depressive episode. It is very difficult to help a person who does not recognize that they are experiencing feelings of depression. Therefore, it is very important that we recognize the symptoms of depression so that we can seek help if feeling depressed. The following article is about the risk of experiencing an illness within an illness.

Depression is a pervasive mood disorder affecting large numbers of general population (U.S. Estimates 5-11%; that is over 10 million Americans). For people diagnosed with chronic illness/disability its prevalence is many times greater. Since many seniors suffer from mild to severe age-associated disabilities, this means there is a significant risk that seniors, as well as the chronically ill or physically disabled, will endure a Major Depressive Episode; an illness within an illness.

The mood in a Major Depressive Episode is often described by a person as feeling depressed, sad, hopeless, discouraged, or "down in the dumps". According to DSM IV (the manual of mental disorders used by mental health practitioners), diagnostic criteria for a Major Depressive Episode are: a period of at least two weeks during which there is depressed mood; diminished interest or pleasure in almost all activities; significant changes in appetite or weight; decreased energy; feelings of worthlessness or guilt; difficulty thinking; excessive crying or not feeling any emotions; difficulty concentrating, or making decisions; insomnia or hypersomnia; recurring thoughts of death or suicide ideation, plans or attempts.

(Continued on Page 8.)



"YOU'LL
Never
Get Me UP
In one of
THOSE!"



An Illness Within An Illness?

(Continued from Page 7.)

Often people experiencing a depressive episode do not recognize that they are depressed. It is for this reason that if you are experiencing any of the symptoms described about depression, you should contact your doctor, or a mental health professional for an evaluation. Depression can be treated with medication, by counselling, or both. What is important is to have the awareness that depression can be an illness within an illness, and that depression is treatable.

Clinical studies are now proving that patients in therapy using only Cognitive Therapy techniques, are finding longer term results than a similar group of patients taking antidepressant medication. Keith Dobson, a University of Calgary Psychologist, analyzed 28 studies that compared drug therapy versus cognitive therapy--controlling negative thought patterns. He found two thirds of each would be successful, but after a year there would be a 50% relapse with drug therapy and only 25% with cognitive therapy. (From Times Colonist, November 4, 1997). [Cognitive Therapy is worth learning more about.](#)

COGNITIVE THERAPY BOOK "FEELING GOOD"

I recommend reading the book "FEELING GOOD", by Dr. David Burns. This book explores the new mood therapy called Cognitive Therapy. Cognitive Therapy is being used by mental health professionals and individuals for self-management, as a drug free treatment of depression. *Feeling Good* is in bookstores as well as libraries.

REPRINTED from CHANGING LANES...a guide to help when ageing, illness or disability forces us into the Slow Lane. This and other books, booklets and articles related to disability are available from www.changing.ca or BORDER, BOOKS and MUSIC have it for \$7.99 plus your tax.



"Cancer Update News From Johns Hopkins"

1. No plastic containers in micro.
2. No water bottles in freezer.
3. No plastic wrap in micro.
4. No foam containers in micro.

(Continued in next Column.)

John Hopkins has recently sent this out in its newsletters. This information is being circulated at Walter Reed Army Medical Center.

Dioxin chemicals causes cancer, especially breast cancer.

Dioxins are highly poisonous to the cells of our bodies. Don't freeze your plastic bottles with water in them as this releases dioxins from the plastic.

Recently, Dr. Edward Fujimoto, Wellness Program Manager at Castle Hospital, was on a TV program to explain this health hazard. He talked about dioxins and how bad they are for us.

He said that we should not be heating our food in microwave using plastic containers. This applies to foods that contain fat. He said that the combination of fat, high heat, and plastics releases dioxin into the food and ultimately into the cells of the body.

Instead, he recommends using glass, Corning Ware or ceramic containers for heating food.

You get the same results, only without the dioxin. So such things as TV dinners, instant ramen and soups, et., should be removed from the container and heated in something else. Paper isn't bad but you don't know what is in the paper. It's just safer to use tempered glass, Corning Ware, etc.

He reminded us that a while ago some of the fast food restaurants moved away from the foam containers to paper. The dioxin problem is one of the reasons.

Also, he pointed out that SARAN WRAP is just as dangerous when placed over foods to be cooked in the microwave. As the food is nuked, the high heat causes poisonous toxins to actually melt out of the plastic wrap and drip into the food.

Cover food with a white only paper towel instead. This is an article we believe you should forward to your family and friends-- anyone who is important in your life!



DIRECTIONS TO JUANITA BEACH

SOUTH BOUND I-405 - Take Exit NE 124th St. #20 TURN ONTO: NE 124th St.
GO WEST to 3rd STOP LIGHT (100th Ave)
TURN LEFT & GO TO: NE 116TH ST.
TURN RIGHT AND GO 1 BLOCK TO STOP LIGHT.
LEFT INTO PARK.

NORTH BOUND I-405 - Take Exit NE 116th St. #20 GO WEST: to 3rd STOP LIGHT

"POLIO OUTREACH OF
WASHINGTON"
10th ANNUAL PICNIC IS SET FOR
SUNDAY, AUGUST 13, 2006
11:30 AM -- 4:00 PM
We will eat at 12:00 Noon

You are cordially invited to attend our picnic.
Please bring your family, extended family, and
friends with you. All the information you need
is noted below.

By - Rhonda and Whitey Whitehead,
Picnic Committee Chairpersons

It's time once again to make plans to attend our yearly, state-wide, POOW picnic! These events are wonderful opportunities to greet old friends, make new friends, and to share the bond of support and caring with other polio survivors and their families.

We will have good food, door prizes and a raffle, games, and a very special speaker! Dan Miller. He is a nationally known motivational speaker, author, and polio survivor from Yakima, Washington. He will share with us his wonderful inspirational story. Dan's story, whether in person, in his book, or in his video is uplifting, encouraging, life-changing and full of joy. He is not to be missed!

Juanita Beach Park is located on the Eastside of Lake Washington overlooking Seattle Washington. It has a large (U/Deck Walk-way) from the shore over Lake Washington. Wheelchair people will enjoy rolling around the Walk-way over the beautiful water and others can walk or jog around the deck. The view of Seattle and beautiful Lake Washington will enhance your visit. The park is easy to reach from I-405. **See Page 8 for DIRECTIONS.** We will be in SHELTER #2 area on the WEST end of the park. There is additional parking across the street from the park.

WHAT TO BRING: The shelter area has limited picnic benches. Some card tables and chairs would be helpful. There is parking in the picnic area and parking just across the street. Beverages, Pop, (Diet & Regular) Bottled Water, Coffee-Tea, silverware will be provided.

The picnic is catered again this year so we need to know how many are attending. If we count you, and you cannot attend, we will have the cost covered. If the cost is a burden for you, please call the POOW office 1-800-609-5538.

(Continued in next column.)

Polio Outreach Of Washington
ANNUAL PICNIC
Sunday, AUGUST 13, 2006
Time: 11:30 am - 4:00 pm

PICNIC REGISTRATION FORM
Please R.S.V.P. by August 1st 2006

Name _____

Address _____

NUMBER ATTENDING

Adults: \$10.00 Children 12 and under: \$5.00

ADULTS: _____ CHILDREN: _____

\$ AMOUNT ENCLOSED: _____

RETURN YOUR FORM TO:

John M. Clark, Office Manager
1-800-609-5538

POLIO OUTREACH OF WASHINGTON OFFICE
4704 235TH ST. EAST
SPANAWAY WA 98387-6162

Please complete the registration form above and mail it to the POOW office along with your catering cost for those in your party.

(\$10 per adult and \$5 for children 12 and under.)

Available motels are noted below.

Any further questions about the picnic contact
Rhonda Whitehead at 425-488-0219 .



**POOW (PICNIC) MOTELS
(KIRKLAND, WASHINGTON)**

There are on-line discounts available for these motels.

____ COMFORT INN Kirkland, WA 425-821-8300

____ MOTEL 6 Kirkland, WA 425-821-5618

____ LA QUINTA INN Kirkland, WA 425-828-6585

Polio Outreach Of Washington State Polio/Post-Polio Support Groups

The LEADERS of the PPS Support Groups are noted below. For further details contact our office at: 800-609-5538 or 253-847-8114.

Bremerton and Kitsap County Bob and LouAnn Miller, 360-692-1381 rmiller@wavecable.com

Clarkston, Idaho: Tri-State Polio Pals
Jim Hueston, 208-790-3805, rockinnj@clarkston.com

Ellensburg Call 800-609-5538

Everett, Marysville, Snohomish County, & Seattle, & North King County Rhonda Whitehead 425-488-0219 lauriswh@comcast.net

King County (South) Renton, Seattle, Maple Valley, Auburn, Federal Way
Mimi Sangder 206-725-8937, fuzzface7@juno.com

North Central Washington - Wenatchee & other Cities
Don and Carol Hinman, 509-884-2176, dchinman@charter.net

Olympia, Washington - Ursula Schmidt, 360-456-8097, bobuschi@msn.com

Olympia, Capitol (D0T) State Capitol Employees
Larry Julius, 360-426-0100, LJulius600@aol.com

Port Angeles, Washington Paul Tucker, 360-452-6487 paulavr@olympus.net

Richland-Kennewick-Pasco Washington
Norma Peters, 509-946-5485, nevers@televar.com

Spokane, Washington 800-609-5538

Tacoma, Pierce County & Surrounding Cities
Marlys Tron, 253-863-9556 & Flo Anrud 253-588-0655, anrud11444@foxiinternet.com

Vancouver, Washington Susie Koeser, 360-574-4523, vipsusie@msn.com

Oak Harbor, & Whidbey Island WA Dorothy Michel, 360-675-4727 deejaymichel56@comcast.net

Yakima Lower Valley Bev Nading, 509-837-4265 or all 1-800-609-5538



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Office - 1-800-609-5538

Polio Outreach Of Washington CENTRAL OFFICE

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Spanaway WA 98387-6162
1-800-609-5538 or 253-847-8114

BUSINESS HOURS

Monday-Friday 10:00 AM to 4:00 PM

Non-business hours: Leave message.
We will return your call as soon as we can.

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Newsletter Editor - Vivian J. Clark
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360-574-4523

E-Mail: vipsusie@msn.com

VICE PRESIDENT - John M. Clark
1-800-609-5538 or 253-847-8114
E-Mail: poow85jmc@msn.com

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E-mail: q3suz@earthlink.net

TREASURER - Susan Harter 425-277-7663
E-Mail: hsuzi@aol.com

OTHER BOARD MEMBERS
Bob Miller; Bill Simpson; Bill Veters;



POOW DISCLAIMER

People who had Polio and are experiencing new symptoms need to be assessed by medical professionals who are experienced in Post-Polio to determine what is wrong and to give correct advice. Take what you believe to be relevant to your Medical Professional. It is the intention of Polio Outreach Of Washington to make all the information we collect available regardless of our views as to its content. We do not accept liability for any damage resulting directly or otherwise from any error introduced in the transcription, or for any damage resulting directly or otherwise from the information available herein. The opinions expressed in this newsletter are those of the individual writer and the inclusion of a document in this newsletter should not therefore in any way be interpreted as an endorsement or approval.

Articles and portions thereof need to have prior approval of Polio Outreach Of Washington Newsletter Editor.

Vivian J. Clark, at: E-mail: poow85jmc@msn.com

Phone: 1-800-609-5538

Polio Outreach Of Washington, State of Washington, Non-profit Corporation

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My first contact with Polio Outreach of Washington.

This is a NAME and/or ADDRESS CHANGE

I would like to receive your newsletter.

I am making a donation. Suggested \$20.00
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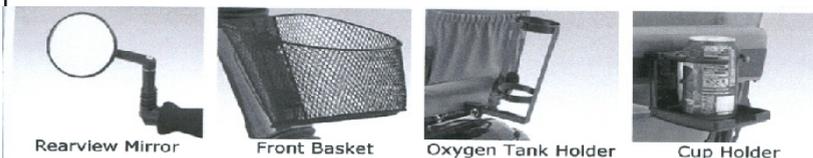
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 Mail Check with complete form to:> 4704 235th St. East 1-800-609-5538
 E-mail: poow85jmc@msn.com Spanaway, WA 98387-6162 253-847-8114



Pride Scooters and Quantum Wheelchairs



Absolute Mobility Center is proud to carry the Pride and Quantum (old name Jazzy) line of motorized Scooters. These Scooters are known for being a comfortable and dependable approach to personal mobility. Along with being quiet, smooth riding, durable and easy to operate, they are also an expression of style and personal taste. The Scooters are available in a broad range of models designed with the life-styles of our clients in mind.



Scooter Accessories -- Complete your scooter with one or more of the convenient or practical and stylish accessories. We offer a variety of accessories such as cup holders, cane/crutch holders, rear view mirror, and baskets. Pride and Quantum (old name Jazzy) lets you customize your scooter to make it as unique as you are.

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FAX: 360-668-1543

HOURS OF OPERATION
Monday - Friday: 9:00am - 5:00pm
Saturday 9:00am - 1:00pm
Closed Sundays

Polio Outreach Of Washington State of Washington, Non-profit Corporation



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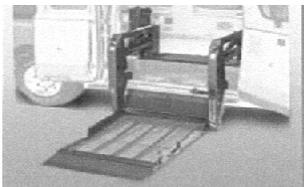
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MISS MIMI, A BLESSING!

Submitted by:

In 1991 I found myself living alone for the first time in my life. My husband of 28 years had decided to move away two years earlier and my last child at home had left for college. I had been diagnosed as having Post-Polio Syndrome a few years earlier when most doctors were unfamiliar with it or didn't believe in it. Because my divorce, financial, and medical problems made it almost impossible to sleep at night, I decided to adopt a nocturnal creature to keep me company during those long, dark hours; a KITTEN !

My daughter and future daughter-in-law joined me on my mission. First, we shopped at Wal-Mart for just the right supplies; litter box food, toys, etc. Then we went to the local humane society's cat room. I knew I only wanted a female kitten, but every kitten I picked up was the wrong gender. Finally, I asked my future daughter-in-law (about the wrong Gender) and she was holding a tiny handful of calico fur. Calico had been on my unwanted list because of a bad experience in the past, but I just couldn't pass up this one. So, I adopted MIMI, whose voice only made a tiny "mew" sound.

One night, I was in agony because of severe pains in my knee. Soon, little Mimi jumped on the bed, lay across my knee and started purring. The next thing I knew, I awoke in the morning, after a very restful sleep. Sometimes, she would like across the back of my aching neck. In time, I noticed that Mimi would watch me walk and when I was tired and limping, she would walk over me and stand on my "Polio" foot. When I make a clumsy move and ang my tender toes on a chair leg, Mimi comes running with a worried look on her face and I find myself trying to calm her and me, with toes soon forgotten.

Eventually, Mimi became my protector and while I taught her to trust me, she taught me how to be independent. Mimi is still with me and my second husband. Thank God he likes cats, because he actually married both of us. Last night, as usual, Mimi and I sat in my recliner and she kept me warm while she slept and purred, relaxing me at the end of the day. I am now 65 and the effects of ageing after Polio at 9 years of age is changing my life, but the biggest loss I will have is when my furry, little nurse MIMI, is no longer here to comfort and help heal my wounds. She has proven what a blessing a special pet can be to us when we are hurting or lonely.