AMONG OURSELVES

Newsletter of the Canadian Hemochromatosis Society

A Message from the Board

CHS NEEDS YOU! to help raise $100,000

Over the past two years our services have expanded dramatically, as we try to keep up with the high demand for information and support to those with hemochromatosis and their families. The number of newsletters, brochures and information packages have doubled. We have expanded our website to reach out to the medical community as well as all other Canadians. We are also working hard to support our network of valuable contacts, volunteers, and medical professionals, who are constantly promoting awareness in their communities. We need to be able to continue and expand this work.

" I was lucky that sites like this one enabled me to recognize that I have hemochromatosis. Keep up the good work!"

This growth has taken its toll on our small office. We now have 3 part time staff to keep up with the demands, and at the same time our costs for stationery, printing, postage, computers, rent, telephones, and wages continue to rise.

Hemochromatosis is the NUMBER ONE genetic disorder in this country. Through charitable giving, you are becoming a partner in reaching the Society's goal of promoting the health of ALL CANADIANS suffering from hemochromatosis. Everyday we are getting closer to obtaining this goal, but we cannot do this without your ongoing generosity. Unfortunately donations in 2001 were down from the previous year. As a non-profit society, without government funding, we have to raise our own money to continue our services.

"You've given me a lot of valuable advice. Thanks for the support."

At this time of year when donations are generally down, it is our hope to inspire you to think of ways in which you may be able to help in your community. Perhaps you can talk to your local media or organize a local fundraiser. Have a dance or dinner, or make us the charity of your choice at the office. Many of you may have connections to large organizations or charitable foundations that could make our society the recipient of their charitable donations. It took 5 years for our president to convince her golf club to make hemochromatosis the designated charity to receive the proceeds of their annual Ladies Invitational Golf Tournament. This effort resulted in a $20,000 cheque received in 2001. So it does work!

"I am so glad to have the opportunity to connect with other hemochromatosis sufferers."

DO YOUR PART! Ask your family and friends to become members and to donate.

Now with the International Association of Hemochromatosis Societies getting more attention in the medical communities around the world, it is the time to come together to stop this deadly disorder. We can save lives through early detection. Maybe it will be someone in your family or a friend of yours. Together we can make a difference in the future of Canadians and their families.

Hemochromatosis in the News

IN PRINT

International News; "Celtic gene traced back to 1000 AD linked to hemochromatosis disorder," Dublin, Oct 2000
The Hinton Parklander; May 2001
North Shore News; "Ladybugs Golf Seymour for good cause," Jul 2001
Richmond Review; "Volunteering the right target for bowlers," Jul 2001
Times Colonist; "Trumping Iron" by Katherine Dedyna. Interviewed Marguie Nordman, Oct. 2001
Optimum; Institute for Positive Health for Seniors "Iron Overload," Oct. 2001
The New York Times; "Blood donors with a need to give" by Eric Nagourney, Oct 2001
Ottawa Newspaper - Le Devoir; Sante, Dec. 2001
South Fraser Health Region Newsletter; "Hemochromatosis Experts in SFHR," Dr. Krikler and Marie Warder, Dec, 2001
Toronto Star; "Science Friction: Greed vs. public good," Feb. 2002
Ottawa Citizen; "Gene Patents hike research costs," Feb 2002

ON THE AIR

CJOH, Ottawa Support Group, Oct 2001
Channel 6, Crime Scene Investigations discussed HHC, BC, Oct 2001
Ottawa Support Group, Sylvie Desjardins, Jan 2002

Looking Forward

The Next Annual General Meeting

This will take place on Saturday May 4, 1pm at the Caring Place in Richmond BC. Come and voice your opinion and particpate in a question and answer period with one of our medical advisors.

Awareness Week, May 25-31

Help us spread the word about HHC. Ask us for brochures and posters to distribute, talk to your local media. This year we are targeting post secondary schools.

Ottawa Support Group

Located in the Boardroom of the Ottawa Hospital Riverside Campus and scheduled for:
Thursday Feb. 14th; Thursday March 14th;
Thursday April 11; Wednesday May 8th
Phone; (613) 739- 9277
Everyone is Welcome!

Richmond Support Group

Saturday April 13, 2002 12:00 pm-2:00pm
Located at the Caring Place in Richmond
RSVP to our office if you are interested in attending.

Arie Boom .....To see what can be rescued!

Arie Boom (49 years old) suffers from hemochromatosis. Diagnosed too late. Incurabley ill. He has found the motivation to make a personal contribution to the promotion of as much knowledge as possible about hemochromatosis. A journey around the world. Two years. By sea. Alone.

Arie Boom is the head of harbor traffic in the coastal town of Harlingen, the Netherlands. He was also a crew member of the Royal Dutch lifeboat Association. After 15 years in the merchant navy this was his way to stay in touch with the sea.

His illness has put an end to his rescuing. He is dropping everything and is setting out. This will definitely be the last time. But it will be a historic one. A journey around the world with the goal: Public Awareness.

After a long search, the most suitable sailing boat was found. The next months will involve rigging, fitting out and stocking up the ship. Public awareness is carried by publicity. The search for sponsors is ongoing That is why the sails are still white. The hull is still bare. Arie Boom will sail. That is certain. His website: www.ironoverload.nl

General Information on Hemochromatosis

What is it? - The excess storage of iron in the body.
What is the cause? - Primarily hereditary
Most common symptoms - chronic fatigue, joint pain, irregular heart beat, mood swings and confusion, bronzing of the skin and abdominal pain.
Most common complications - liver and heart disease, diabetes, arthritis and hormonal irregularities.
Tests required for diagnosis - serum ferritin, transferrin saturation percentage and genetic testing.
Treatment - phlebotomy treatments (bloodletting) which are ongoing for life -LITERALLY!
Reference reading - *The Bronze Killer; The Iron Elephant; Iron Disorders Institute Guide to Hemochomatosis*

Successful Pregnancy Following Diagnosis of Hemochromatosis

By Jill C. Cordova Ph. D

Hemochromatosis is well established as a cause of infertility in both men and women. Despite its frequency and effect on the endocrine system, Hemochromatosis has attracted little attention in fertility textbooks (Tweed and Roland, 1998). These textbooks suggest that an early diagnosis of hemochromatosis is important since phlebotomy treatment can restore hypothalamic-pituitary and reproductive functions. *To order the full article send us your name and address, or use our toll free number.*

Personal History

I was diagnosed with hemochromatosis in 1987 at the age of 30. My symptoms included fatigue, osteoarthritis, bronze skin color, enlarged organs, a ferritin level of 8100, and an iron saturation level of 91%. I immediately began phlebotomy therapy and continued an average of twice weekly phlebotomies for just over a year. Since then my ferritin levels have consistently stayed around 25 and I have phlebotomies three or four times a year. I had no permanent organ damage. However, I do have advanced osteoarthritis in my ankles and knees which could have been precipitated by my participation in triathlons and competitive soccer. I was amenorrheic for two years, from 1986 through 1988.

Because my estrogen levels were low, beginning in 1988 I began estrogen and progesterone therapy (Premarin and Cycrin). I continued this hormone therapy for six years, basically to resume regular menstrual cycles and prevention of osteoporosis. I had a spontaneous second period within one month in 1994. At this time I decided to stop the hormonal therapy and waited to see if I would begin menstrual cycles on my own. My monthly menstrual cycles resumed without hormonal therapy. During the summer of 1998, I became pregnant and had a miscarriage at 10 weeks gestation. I continued to have regular menstrual cycles until February 2000, when I became pregnant at the age of 43. I had a normal, healthy pregnancy and gave birth to a healthy eight-pound girl in November of 2000.

Since my twenties I have been diagnosed constantly as anemic. I was even given iron prescriptions while in college, prior to my diagnosis of hemochromatosis. I continued to be at anemic levels throughout my pregnancy, however this did not seem to affect either my pregnancy or my daughter. During the six years prior to my second pregnancy, twice I had my serum estrogen, serum progesterone, FSH, and LH levels tested. My estrogen levels were normal, but I had low levels of FSH and LH.

When I asked various physicians about my chances of having a successful pregnancy, most tried to dissuade me. They often seemed nervous because they knew so little about the disease. It was hard to find a obstetrician/gynecologist who knew much about hemochromatosis. The physicians seemed concerned about the extra stress placed on a woman's body during pregnancy and the usual need for more iron for the mother and fetus. After much searching, I did find one physician who suggested that I consider hormonal therapy to induce ovulation, but I decided to let my body discern whether I was able to conceive. I am happy that my case history confirms that successful pregnancy without hormonal therapy can occur after diagnosis of Hemochromatosis.

OUCH!!

Tom Ross, Phlebotomist.

Rolling veins exists mostly in people with poor connective tissue. The vein is loose like a rope. When the needle is inserted the vein rolls away making it difficult for the technician to penetrate.

One method that works best is easy: facing the patient, apply tourniquet as usual. Then, using your free hand, grasp the arm of the patient under the elbow and pull the flesh taut-like, like the skin over the top of a drum. The vein will pop up nicely and it cannot move. A technician should be able to draw blood easily and painlessly. This takes know how and a bit of extra time.

After more than 10 years of drawing blood Tom has learned some more tips for painless blood extraction. When the vein is small and difficult to find, it is helpful to apply two tourniquets: one is placed above the site and the other below the site. This creates a dam, so to speak. The vein then becomes full and is easy to draw.

On the small vein it can be productive to take the time to heat the towel (*hot water*) and apply just above your site. This will dilate the vein with more blood thus making your "target" more visible and easy to enter. I know sometimes we are rushed for time but these extra steps will actually save you time in the long run. No one needs to hurt with a draw done with a little care.From IDINSIGHT newsletter form IRON DISORDERS Org.GreenvilleUSA.

Painful Venesection Treatment

The best method I have found is to buy some Xylocaine Ointment. Apply the ointment at least 30 minutes before giving your blood. If you find it a little messy or sticky, place a small piece of gauze over it and tape it in place, which should keep the ointment from getting onto your clothes. I have been using Xylocaine (pronounced Zylocaine) for a year now and have found it very successful. From Great Britain newsletter March 2001

MAIL-BAG

We have taken the liberty of excerpting from some of the many letters we received from our readers ~ Thank you for writing.

I am 41 years of age. I was born of Norwegian and Irish descent. I am one of two siblings both diagnosed with hemochromatosis. My brother passed away with massive heart failure at the age of 31 years. At about the same time I was diagnosed.

I was about 12 years of age when I started to have massive headaches, followed by nosebleeds. I joined the Canadian Armed Forces in May of 1979. During the early years of my enlistment I had an abundance of energy and a glorious tan. In about 1981, then 22 years old, I started to feel fatigued with very little exertion, and also suffered with fits of anger and moodiness.

I was married by then and we were trying to start a family of our own. I visited the military doctor, who without blood tests gave me Iron pills. The fatigue never went away. My knees started to lock, my ankles felt like I had sprained both of them, my hands ached, and my head felt like it was going to explode with migraine headaches. I would have spells of vomiting with every migraine occurrence. The base doctor prescribed various painkillers, which seemed to have no effect on the migraines. He put me on therapy and light duties. While all this was going on, like a sudden wind came the sterility. I was then referred to a specialist at the National Defense Medical Centre in Ottawa, who prescribed anti-histamines.

I received a call from my mother. My brother had had another heart attack. He got diagnosed with hemochromatosis and said that I should be tested. I was sent back to the National Defense Medical Centre. After a lot of explaining to the base doctor and having him call the Surrey Memorial Hospital, I too was diagnosed with Hemochromatosis. I underwent weekly phlebotomies from September of 1982 to late 1983, when I started having dizzy spells. My phlebotomies got moved to every two weeks until my medical discharge on May 4th 1984. I came home to Parry Sound, Ontario.

I tried to seek compensation from the military, as I was not allowed to work for a long period of time. I was unsuccessful. During the years to follow my health was quite reasonable. I regained my ability to impregnate my wife and now have two beautiful children. In 1995 I suffered from hair loss. All the hair on the crown of my head in a 4-inch diameter fell out. It grew back in late 1996. Later in 1997 and 1998 I began to feel the joint pains again. Also I developed a hiatus hernia with acid reflex, ulcers, and chronic diarrhea. I was found to have very high liver enzymes, enlarged liver, and gall stones.

I am applying for disability as a result of the arthritis, diarrhea, and sporadic vomiting. It is SO difficult to get the medical profession to acknowledge the real problem.

W.J.
Parry Sound, ON

I am homozygote and so is my brother. I wouldn't have known except that I had gastric by pass and they track your blood work every three months. The dietician noticed that I had elevated iron and through HER insistence the doctor finally sent me to see a specialist, where the diagnosis was made. This helped my brother because he has arthritis. At present, I won't be able to keep my weight up by drinking Ensure.

K.K.
Pickle, ON

I have been genetically tested and I have hemochromatosis. After I was tested, my husband was tested and he too is genetically the same as I am. I was tested because my father and his sisters have it also.

Since being tested I am hearing more about this condition. However there are still a lot of doctors saying it is rare. I am aware with my husband and myself having it, it isn't so rare.

Knowing my daughter (who is 30) has it, sort of concerns me. She and many other young people are taking shots to prevent pregnancy and are not getting periods. To me this means a danger to untested girls. I hope doctors are thinking the same way I am.

I really wish people could say my friend, son, daughter died of hemochromatosis complicated by heart failure, kidney failure, etc. There would be a lot more awareness quickly.

P.S.
Edmonton, AB

My husband (at age 56) was diagnosed in March 2001. Consequently our children were all tested and the results are as follows: 1st born son – heterozygote for Cys282Tyr; 2nd born son – compound heterozygote for the mutations His63Asp and Cy282Tyr; daughter 3rd born compound heterozygote for the mutations C282Y and H63D. Because of these results I was tested and found to be a carrier of the H63D mutation. My husband has two sisters, one has been found a carrier of Cys282Tyr, the other is currently being tested. I also have two sisters that will undergo testing. "And on it goes". We have two grandsons who will be watched and eventually tested for the gene.

S.D.
Stouffville, ON

I was diagnosed 2 yrs ago at the age of 25 and through normal blood donations, I can maintain my iron without difficulty. My diagnosis was lucky because I have been a blood donor since 1955 and when donating I have always had high hemoglobin levels. What I am stressing is that blood donations don't only save other peoples' lives. It can help save your own as well.

M. K.
Edmonton AB

LETTERS TO THE EDITOR

If you would like to share your experience, comments, concerns or suggestions with other members of the Society, consider submitting a letter to the editor for inclusion in this bi-annual publication. Since space is limited, please keep your comments relatively brief. In order to publish as many letters as possible, we retain the right to edit you contributions for length.

Report from Iron 2001 Conference

Submitted by Elizabeth Minish

In October I had the honor and the pleasure of representing the Canadian Hemochromatosis Society at the Iron 2001 conference in Greenville, SC organized by the Iron Disorders Institute. IDI describes itself as an educational resource center, not a membership based organization. As such, it produces educational materials, hosts scientific and patient conferences (of which this is one), and conducts workshops for nurse practitioners and technical staff such as phlebotomists. Fundamentally, based on the idea that iron's influence and imbalances are the underlying cause of many health problems we face today and may face in the future, the institute's mission statement is: "To reduce pain, suffering, and unnecessary death due to disorders of iron such as anemia of chronic disease, iron loading anemia, iron deficiency anemia, porphyria cutanea tarda, African siderosis, non HFE-related iron overload, and hereditary hemochromatosis." Although iron disorders of all types are covered under the umbrella of the institute, each of the three co-founders has been personally affected by HHC.

This was my first conference of this type and I found it to be a most edifying experience on many levels. Unfortunately, attendance by both patients and presenters was adversely affected by the events of September 11th, but the presentations were all of a very high caliber.. Some of the highlights follow below.

Dr. James Connor presented information about iron imbalances and the brain. To summarize, the ability of the brain to store a readily bioavailable source of iron is essential for normal neurological function because both the iron deficiency and iron excess in the brain have serious neurological consequences. For example, excess iron in the brain is a consistent observation in Alzheimer's and Parkinson's Disease. Excess iron in the pituitary, sometimes referred to as the master gland, is implicated in the mood swings, depression, impotence, and infertility consistent with hemochromatosis. On the other hand, evidence is accumulating that Restless Legs Syndrome is a result of too little iron in the brain. Although the brain is traditionally considered "protected" in hemochromatosis, recent data suggests that it is not. Of particular interest to me was information about how heterozygotes with HHC had elevated risk levels for a number of neurological disorders including brain tumors.

Another presentation by Dr. Herbert Bonkovsky looked at the role of HFE gene mutations in liver diseases other than HHC, including porphyria cutanea tarda (PCT), Nonalcoholic Steatohepatitis (NASH), Alcoholic Liver Disease, and Endstage Liver Disease. In all cases, the prevalence of heterozygosity for HFE mutations seems to be statistically higher in patients with these diseases, suggesting that these mutations may contribute to hepatic iron loading and fibrosis. Although the results are not conclusive, the role of non-clinical levels of iron loading seems to require more study.

Dr. Eugene Weinburg, a physician whose work was included in "The Bronze Killer" is a leading expert in infectious disease and cancer.. Of special interest was his information about the role of inhaled iron in lung cancer, especially through tobacco smoke, which is extremely high in iron. (This gave me the idea to approach the anti-tobacco lobby for help in our "too much iron can kill you" message!) He also talked about the dangers of supplemental iron for pregnant women, pointing out that since during the second and third trimester a women is much more efficient at absorbing iron, there is very little case to be made for this widespread practice.

Dr. P.D. Phatak gave a presentation on the cost effectiveness of screening for HHC/iron overload. Genetic screening continues to be controversial in the US, however some kind of general population screening would definitely be cost effective. Ironically , an HMO in San Diego recently stopped doing routine iron profile screening in the aftermath of a scandal involving billing for unnecessary tests in another jurisdiction. As we all know, HHC is a poster child for the exercise of preventative medicine. In light of the other presentations that seem to also implicate heterozygosity as an increased risk factor in many diseases, it occurred to me that this further strengthened the case for genetic testing.

There were also presentations from a number of patients who told their stories, many of which were very heart rending. Of great interest to me personally were the presentations from a man who was a compound heterozygote who is loading iron, and from a young woman who is homozygous for HHC, has TS of 95% and sets off metal detectors at airports, yet has extremely low ferritin and as such, has been refused treatments. Genetically, I am a compound heterozygote and I have low normal ferritin levels yet have elevated TS%. I was shaken out of any complacency I might have been experiencing and I am presently on a mission to investigate the protocol for people like me because my genetic report lists the risk of iron loading at around 2%. The IDI includes compound heterozygotes as people with hemochromatosis in their database. I believe we may be doing this as well, but most importantly, I had never considered this for myself.

Attending this conference has re-inspired me and given me a number of ideas for new ways of marketing us. It was also great for giving me a true appreciation for the role of organizations such as ours and what we have to offer not just to patients we serve, but to the research community who by necessity needs to have a very narrow focus for their work. I feel much more strongly now that we have a true mutually beneficial relationship with the medical research community, who often need our broader perspective to make connections and get confirmation from our database of the inter-relatedness of many disease factors.

Member in the Spotlight
Rien van Tilborg

I was born in Holland in August 1945, three months after the end of World War II. In 1951 our family immigrated to Canada, settling in the Abbotsford area of British Columbia. I had my public schooling in Abbotsford and in 1964 attended UBC in Vancouver for teacher training. In September 1965, I started teaching in Mission, B.C., and taught there for 35 years, attaining 'freedom 55' at the end of June 2000.

Although I had rickets as a young child, I have been relatively healthy, except for periodic bouts of intestinal and urinary inflammation/infection. During the last ten years of teaching, I noticed that memory for details was diminishing, as was my energy level. I attributed both to increased demands of the teaching profession and compensated by writing reminder notes and lengthening my workday to reduce the pace. Certain body changes were also occurring - I bruised easily and the tiny blood vessels in the whites of my eyes periodically ruptured. At the end of each day, my socks were coated with tiny flakes of skin from my lower legs. Visits to the family doctor and specialists revealed no identifiable reasons for these conditions.

In November 1996, I developed chest pains and went to emergency to check for a possible heart attack. The blood tests done were normal except for hemoglobin, which was slightly below the norm. A ferritin test was ordered for possible anemia. The result was 646 ug/L on a scale of 20 - 778, and in the normal range!?! Three years later, in December 1999, I went to my doctor and complained that I was constantly tired. I stated that I was possibly anemic and requested an iron test. A ferritin test was done and the result was flagged, showing 778 ug/L on a revised scale of 15 - 370. I now was clearly outside the normal range, and using the revised scale, I was well outside three years earlier! Further tests revealed the following: Total Iron - 29 (9 - 30) umol/L, Total Iron Binding Capacity (TIBC) - 34 (45 - 70) umol/L, and Saturation - 0.85 (0.15 - 0.55). Hemochromatosis was suspected and confirmed early in April 2000.

At this point, I was three months away from the end of the school year and retirement from teaching. I decided to start phlebotomies in July, suspecting that I might not respond well to bloodletting—after all, I had lived with this condition for more than 54 years and a few more months wouldn't make much difference. In the meantime, I searched for all the information I could find about hemochromatosis and managed to locate two books: "The Iron Time Bomb" by Bill Sardi and "The Bronze Killer" by Marie Warder. If the titles didn't get your attention, the contents certainly did! I had my first phlebotomy (500 mL) early in June and passed out as the procedure was being completed. A second phlebotomy (200 mL) in the middle of June went better. However, I frequently went into hypoglycemic reactions and generally did not feel well most of June. As my body continued to adjust, subsequent phlebotomies had less adverse effects.

Also in June 2000, after reading the two books, I went to see my doctor to request blood tests to determine how iron overload may have affected the liver. The blood work was ordered, as was an ultrasound of the liver, pancreas and spleen. Blood tests showed normal liver function. Although the ultrasound indicated no concerns with the liver and pancreas, it did reveal an aneurysm (in rupture range) on the artery to the spleen! I found it rather ironical (no pun intended) that hemochromatosis, a potential life-threatening condition, lead to the discovery of an aneurysm and a life-saving operation! For this I truly thank God!

While going through the procedure leading up to removal of the aneurysm in October 2000, I continued with phlebotomies, gradually increasing them to 500 mL. By the middle of September, the ferritin level had dropped from 778 ug/L to 239 ug/L. To date, I have had sixteen phlebotomies and a recent ferritin test indicated 35 ug/L — well within normal limits. It appears that a phlebotomy every three or four months will 'keep me in line'.

"Considering the devastating results of undiagnosed iron overloadand subsequent medical costs, a yearly ferritin test is a sound investment for both you and the government.

What have I learned?

a) You must take charge of your health and be persistent with the medical community, particularly if you have ongoing, unexplained symptoms.

b) Maintain a record of doctor visits, including copies of lab results. It is impossible to remember your medical history in detail (even if your memory isn't affected by hemochromatosis). Records allow you to pick out patterns that may lead to timely intervention.

c) If you have unexplained changes in your state of health, request a ferritin test. Considering the devastating results of undiagnosed iron overload and subsequent medical costs, a yearly ferritin test is a sound investment for both you and the government. If there ever is a 'medical stock market', a ferritin test should be part of everyone's portfolio — it's a guaranteed winner!

Diabetes
One of the First Diseases Resulting From Iron Overload

Advanced diabetes can lead to blindness and gangrene of the toes and fingers, requiring amputation. Diabetes can also lead to kidney failure, and premature death all of which can be prevented. Normally blood sugar levels are kept between 70-130 mg/dL by several hormonal and neuronal mechanisms, especially by the hormone insulin, which is produced by the beta-cells of the pancreas. When defects in insulin production, insulin action, or both are present, high blood sugars can result.

Symptoms of severe diabetes mellitus may include frequent and abundant urination, thirst, hunger, weight loss, and blurred vision. Physical inactivity, obesity, and abdominal body fat distribution are all known risk factors for developing diabetes. Presence of diabetes in a family member also increases the risk of development of diabetes, which suggests that genetic factors play a role in causing the disease.

Hereditary hemochromatosis (HHC), a common genetic disorder of iron metabolism, has diabetes as one of its consequences. Patients with HHC absorb as much as four times more iron from their diets as do people with normal metabolism. Unneeded excess iron cannot be excreted and it eventually accumulates to toxic levels in vital organs. The impaired organs become unable to function properly. In most cases of HHC, this process is somewhat slow to develop. The damage shows up as a heart attack, liver failure, or diabetes after about three to five decades of iron accumulation.

More than 90% of hemochromatosis patients with diabetes have Type II diabetes or are glucose intolerant and about 1/3 of these patients require insulin. Iron can cause damage to tissues of vital organs by changing oxygen into a form known as free radical -increased oxidative stress. Unopposed free radical activity can cause irreversible cell damage. Thus, agents that increase free radical production, such as iron, could result in destruction of pancreatic cells.

If HHC is diagnosed before complications, such as diabetes develop, maintaining a de-ironed status will significantly diminish the risk of iron-related diabetes and other diseases. As a preventative measure, if diabetes runs in your family, you might ask your physician to check iron levels along with blood sugar levels. Other major symptoms that may suggest tissue iron levels are excessively high include fatigue, abdominal pain, liver damage, heart arrhythmias, impotence, loss of menstrual periods, depression, and joint pain.

Excerpt from Id Insight. For the complete article contact the office.

Inhaled Iron
A serious public health concern

We don't typically think of iron as something we inhale. The intestinal lining permits only 5-10 percent absorption, whereas the lung allows 30-50 percent entry into the circulatory system.

In the case of inhaled iron, the respiratory tract does have a few defensive strategies. For example, the powerful iron-trapping protein, transferrin, is present in lung lining fluid. Furthermore, lung defense cells called alveolar macrophages scavenge inhaled iron and deposit it in a protein receptacle termed ferritin. Gradually, the protein plus the metal is converted into an insoluble precipitate called hemosiderin.

You might ask, how does iron contaminate air and who is at risk? Some sources of airborne iron are obvious-dust from iron mines or smelters or from the grinding or polishing of steel. Other sources are less obvious: these include iron derived from mineral dusts from those types of asbestos that consist of iron silicates, and the burning of tobacco. Urban air particulates are also burdened with iron apparently derived from industrial pollution.

Tobacco plants accumulate a large quantity of iron in their leaves. It is no wonder that moderate smokers have a tenfold increased risk and heavy smokers a 15-25 fold increased risk of dying form lung cancer.

Iron is carcinogenic in three ways. First, the metal is a powerful oxidant. This action can initiate the cancer process by causing breaks in DNA strands and by changing cellular structure. ***Second,*** iron can bolster the growth of cancer cells by suppressing macrophage defenses. ***Third,*** iron is an essential nutrient for cancer cell multiplication.

Excerpt from Id Insight. For the complete article contact the office.

Welcome to our New Volunteer Contacts

Gene & Lorna Sapp , Williams Lake BC, Apr-01
Howard Cordick , Richmond BC, Jul-01
James McNamee , Surrey BC, May-01
Kimberley Morrison , Richmond Hill ON, May-01
Melanie Banks , Kelowna BC, Mar-02
Rick Plumridge , Aldergrove BC, Jan-02
Rien Van Tilborg , Abbotsford BC, Jul-01
Robin Camp , Calgary AB, May-01
Terry Wallbridge , Victoria BC, Aug-01
Therese Dupuis , Notre Dame NB, Feb-02

They really help us in their communities in many ways, i.e. by distributing materials, contacting media, answering phone queries. If you would like to become a contact let us know. We especially need contacts in outlying areas. At present, we have no contacts in PE, YK, NT, or NU.

Welcome to our New Members

David Adam, Etobicoke ON
Jackie Albert, Calgary AB
Ambulatory Care, Langley BC
Kevin Audet, Barrie ON
Rudi Bangemann, Surrey BC
Dorothy Barry, Nanaimo BC
Mercedes Bautista, Richmond BC
Robert Bordeleau, Bonnyville AB
Keith & Marlene Bradley, Ottawa ON
Ray Button, Oakville ON
Park Cameron, Oil Springs ON
Kay Cathers, Toronto ON
Jill Cordova, Grand Junction CO
Betsy Cowan, Whitehorse YK
Laurie Crozier, Ucluelet BC
Helene De Villers, St. Jean Chrysostome QC
James Denney, Stouffville ON
Mildred Deweerd, Westbank BC
Robert Dodd, Burnaby BC
Odette Dompierre, Gloucester ON
Therese Dupuis, Notre Dame NB
Anthony A. Farris, Sheet Harbour NS
Gene/Lorna Foss, Duncan BC
Rick Gaertner, Nipawin SK
Roy Gardner, Port Stanley ON
Philippe & Dollena Giguere , Rock Forest QC
David K Graham, Lethbridge AB
Florence & Keith Graham, Alberton PE
Nancy Greenhill, Manotick ON
Laurie MacQuarrie, Port Hawkesbury NF
Frances Harris, Sevogle NB
Willem Hart, Toronto ON
Anne Hartley, Spruce Grove AB
Anthony and Linda Helfrich, Bragg Creek AB
Helen Helfrich, Turner Valley AB
M.J. Hering, Thorold ON
Robert W. Hillier, Antigonish NS
Danniel L Holden, Ta Ta Creek BC
Anne Housser, Shawnigan Lake BC
Sharon M. Hudson, Brockville ON
Dave Isaacson, Coquitlam BC
Lee Ann Jaerschky, Guelph ON
Darlene Jomphe, St-Paul NB
Andrea Jonasson, Calgary AB
Nelson Jones, Elmvale ON
Jennifer Jones, Nepean ON
Sheila Kelly, St. Thomas ON
Guy Lee, Surrey BC
Arnold Leeder, Barrie ON
Barbara Lowden, Brookings OR
Stella MacLean, Coldbrook NS
Leo McGrady, Vancouver BC
Marjorie McKinnon, Carstairs AB
Brian Meloche, Ottawa ON
Judy Mistal, Cranbrook BC
Vern and Vi Morris, Chilliwack BC
Anna Neudorf, Portage La Prairie MB
Bernadette Norlin, Lethbridge AB
Christine O'Grady, Calgary AB
Isabel Oickle, Chester NS
Francis Pickles, Brighton ON
Edith Price, Fredericton NS
James William Publicover, Springhill NS
Robert Raine, Victoria BC
Jacquelyn E. Rawson, Edmonton AB
Agnes Rea, Landis SK
Pat Rea-Auckland, Big River SK
Mark Redeker, Edmonton AB
Vicenc Roda I Beltran, Coma-ruga Spain
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Kenneth Welwood, Burnaby BC
Chris Whittington, Abbotsford BC
George Wilson, West Vancouver BC
James Wright, Kinuso AB
Brenda Zareski, East Chezzetcook NS

Memorial Remembrance of Loved Ones

Our deepest condolences to the families & friends who have lost loved ones and our thanks to the many listed below who have sent memorial gifts.

In Memory of Edward Drab
Ken & Ellen Barker; Mrs. Norma Davidson; Caroline M. and Andy Besler; Esther Wensel; Rita Weller and Family; Dixie Jones; Howard Black; Alden, Jane, and Shelly Dodds; Bill & Pam Burt; Thomas & Toni Morrison; The Jim Hudson Family; Dr. & Mrs. M. Gurjar; Donald L. Evans; Eileen, Marilyn, & Gerry Hudson; Masonic Temple, Richmond #73

In Memory of Margaret Ball
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Mary, Louise, and Kay Kenney

In Memory of Carl Doyle
Carmel Doyle

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Brian & Glenys Edwards; Donna Drab Barina; Danae L. Drab; Deserae Drab-Kataro; June Ediss

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In Memory of John Edward Leetham
Troy B. Brady; Rose Powers; Dana, Craig, Leah, & Emily Coppella; Partners Graphic Support; David and Barbara Leetham; Brenda Doherty

In Memory of James H. Lounder
Marjorie Lounder

In Memory of Cora Mapson
Norm & Kay Belanger

In Memory of Bert Mapson
Norm and Kay Belanger

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In Memory of Roberta Jean Price
Edith Price

In Memory of Harriet Ross
Marilyn Sutherland

In Memory of John Schmist
Brian, Laura & Adam Schmist

In Memory of John Sutherland
Marilyn Sutherland

In Memory of Gail Wiebe
Joyce Otway