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Wishing you a year filled with renewed hope and extraordinary joy.

President's Address - Linda Toews

Season Greetings,

Soft Bones Canada wishes you a Merry Christmas and Happy New Year. 2020 has been a year to remember. With COVID-19 challenging all of us, Soft Bones Canada hopes you and your family have been able to persevere through this trying time.



Throughout the year we were able to complete some fantastic projects. Our main project this last year was our Webinar with guests Dr. Leanne Ward and Dr. Aliya Khan. Soft Bones Canada was able to use Zoom as our platform and present this Webinar on the general details and effects of HPP in children and adults. It was a fantastic presentation and if you missed it you can see it on our website at softbonescanada.ca.

Building on our success of our earlier success, we are presenting our next Webinar on January 28th, 2020 with guests Dr. Robert Schroth and Dr. Marc McKee. This webinar will focus on the dental aspects and HPP. An email will be sent out to registered Soft Bones Canada members. Information will also be made available through our website.

We are continuing to provide industry updates and any medical news regarding HPP. With the Covid-19 crisis, we have had to adapt to new ways of communication. Since we have not been able to travel at this time, all directors have been looking at ways to connect via the internet to gain/participate in virtual meetings. We will continue to keep you updated on news/updates via our website. Don't forget to check it out.

We are currently looking for volunteers to support and join our board of Directors. To continue offering support to the HPP community we need your help and participation. Jen Boin, Director, will be stepping down from the Board of Directors as of June 2021. She is one of the founding members of Soft Bones Canada and has been a large part of building its foundation. We will miss her dedication and hard work immensely. We wish her the best in her future endeavors.

As we go into 2021 Soft Bones Canada will continue to look at ways to Empower, Educate and Connect families and caregivers living with HPP.

Volunteers Needed ASAP

We are looking for volunteers to help on special projects and/or serve on our Board of Directors this upcoming year. If you can help in any way, please reach out to us through our website at

www.softbonescanada.ca and we can discuss more details. Any ideas or suggestions are always welcome. We meet as a board over the phone approximately once a month and communicate as needed about projects and individual initiatives.



What - Dental Webinar

When - January 28, 2021 1:00pm (ET)

How - register by emailing

officemanager@softbonescanada.ca

Presenters—Dr. Marc McKee and Dr. Bob Schroth

Dr. McKee and Schroth have generously agreed to share their experience and knowledge about the impact of HPP on dental health and well-being.

Patients are encouraged to email us any questions or concerns they would like us to address.

Please email us if you would like to participate. We hope to be able to record the session to share with patients who are unable to take part in the live event.

AstraZeneca Buys Alexion

At this time we are not sure what this could mean for HPP patients, but we will keep you updated.

We have been assured that Alexion will continue to provide medication for patients and provide services through the MAP program (Patient Support Program).

Here is the press release from December 14, 2020.

<https://ir.alexion.com/node/22961/pdf>

Patient Story: Rosanne L.

HPP and Me: The Struggle for Support



In March of 2019, I collapsed in agony, a sharp pain shooting through my spine and into my left hip. About 12 hours later, when I was able to walk again, the pain was gone but I now felt a numbness in the left calf down to the foot, an annoying neuropathy which continues to this day. For me, it was just another chapter in my personal hypophosphatasia story, a story shared to various degrees by many who are living with this ultrarare metabolic disease.

I was born in May 1955 at Sick Children's Hospital in Toronto on my sister Theresa's 1st birthday while she lay in her crib alive but unresponsive. Diagnosed at birth (by Dr Donald Fraser*) with hypophosphatasia, a term coined in 1948 by Dr John Campbell Rathbun, a Toronto pediatrician, the prognosis for my sister's survival was bleak. As our mother told it, she spent a full year praying and grieving while her firstborn hovered in limbo before an experimental megadose of cortisone jump-started her to life.

Needless to say, informed of odds pegged at about 1:100,000 incidence of this ultra rare disease based on the local birth rate for Ontario, my parents were devastated by this news. For how many centuries unbeknownst to them, had this malformed gene been carried silently forward through the generations before the disease had manifested itself in their unfortunate children? (Out of eight children born to our family, four showed symptoms of the disease to varying degrees.)

I was also diagnosed with HPP at birth but it was immediately clear that I was affected to a lesser degree than my sister. For one thing, I was not at death's door. At first, my development even appeared quite normal; I took my first steps at nine months. But as a young child, I lost teeth early when I fell and vividly remember a beautiful summer's day where I wasn't running and playing tag with the other kids at a birthday party because it hurt to do so. I dreaded Field Day in grade school. I knew I would do poorly and likely come in last in every activity and there would certainly be no ribbons or medals for me.

However, there was improvement during my reproductive years; I played basketball and volleyball on the high school girls' teams and only lagged behind when running laps.

After my daughter was born in 1991, I was 36 years old, the real difficulties began. In my early 40's, I felt strange reverberations through my femurs when I tried to play hopscotch. I fell while ice skating and getting up, felt the same odd sensations and instability, a foreshadowing of things to come. Over the next ten years, the pain in my legs grew more and more severe; it became difficult to walk and I began to take painkillers regularly. At work I was asked what was wrong as I now had a pronounced waddling gait and one person on the street even asked why I hobbled like an old woman. I began to get frequent spontaneous fractures in my feet and could sometimes even hear a bone crack while simply stepping a few inches down an entry step. I wore walking boots to assist with the slow healing process. As often as I could, I avoided walking and cycled instead.

Every day began to feel like a struggle, an uphill battle. I confessed to my daughter that I wished the entire planet was covered in waist-deep water so that I could walk without pain. It's difficult to comprehend the misery of chronic HPP pain (or perhaps any pain for that matter) without experiencing it firsthand.

One winter day early in 2003, I was 47 years old, I complained about leg pain to my family doctor and he shrugged it off with, "we're all getting older". I handed him some literature about the incidence of bi-lateral femoral fractures in patients diagnosed with HPP. He asked if there were any new findings. I said no. He declined to take the envelope but ordered x-rays just the same. As I was leaving the medical building, I saw a police officer beside my car writing a traffic ticket. I started running, or hobbling with speed better describes it, when I heard "snap,snap" and collapsed to the cold pavement. I knew instantly that I had broken both femurs. A passerby asked if I was OK and I said "no" and asked that she flag the police officer over. I explained the disease to the officer and spelled it for her. She called an ambulance and put my car on special dispensation (no ticket!). Fortunately I was already in the hospital district and it only took moments before I was covered with a silver blanket, the diagnosis of broken femurs was confirmed and I was whisked away.



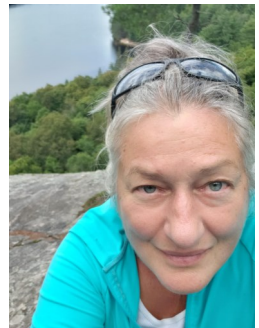
The surgery involved inserting intramedullary titanium rods into the marrow cavity of the femurs and affixing them with surgical screws at the top and bottom of the bone, a pretty ingenious kind of orthopaedic carpentry. I knew from the literature that nailing metal plates directly onto the bones, a procedure practiced widely in the past, might only lead to further fractures in HPP patients.

Living with HPP, I experienced other less dramatic trials and tribulations such as an inordinate number of hours spent in a dental chair undergoing multiple surgeries, fillings, crowns and implants, also countless falls and a broken arm.

Then a life-change event occurred. By a great stroke of luck, my 2nd youngest sister (who is likely an HPP carrier but not manifesting the disease), in her role as a healthcare equity research analyst, was investigating investment opportunities for healthcare sector investors and came across a promising study by an emerging Montréal biotech company, Enobia Pharma. The approach suggested by Philippe Crine (then a professor of biochemistry at the University of Montreal's medical school) was an enzyme replacement therapy to treat the abnormally low levels of alkaline phosphatase which characterize HPP. The initial results showed improved survival and skeletal healing in mice with HPP. They were moving to human trials so my research analyst sister excitedly fired off an email to the family. My survivor sister Theresa immediately contacted Dr Landry who referred her to Duke University (in Durham, North Carolina) where she was enlisted to test the safety, tolerability and pharmacokinetics of this new ERT which involved dosing ENB0040 (asfotase alfa) by subcutaneous and intravenous delivery.

Once I was assured that my heroic lab rat sister had survived this initial human trial, I decided to enroll after her in the next stage of the clinical trial taking place in Winnipeg and spearheaded by Dr. Cheryl Rockman-Greenberg. At this point, I was living with a lot of pain and leaning heavily on painkillers so I was ready and willing to try anything. My participation in the study lasted 5 years. Asfotase Alfa, later marketed as Strensiq** and delivered via injection (frequency varies but for us 6x/wk), helped both my sister and myself, alleviating our pain, improving our mood, overall health and life picture. My starting point was one of lower debility than Theresa so my outcome brought me closer to functional normality for my age. It has also helped our brother who lives on the west coast, on the American side of the border where, unlike Canada, Strensiq has been approved for adult use.

Today, on some days more than others, I hold the bannister for support as I climb or descend the stairs, but on most days I walk, hike, dance and cycle pain-free. I easily accomplish all daily shopping and domestic tasks and enjoy creating art and sculpture as would most healthy women of my age.



There is no end to the gratitude I feel every single day, now that I'm able to live my life unhindered. Strensiq has freed me from HPP pain and hardship. One year without access to this therapy out of eight years of successful use (both in and out of trial) was a difficult and vivid reminder of the mental and physical burden of HPP, one I pray I'll never have to repeat. My greatest hope is that those who struggle daily with soft bone setbacks and each and every HPP adult patient in Canada who might benefit from this life-changing therapy will be granted access very soon.

* in 1955, Dr Donald Fraser at the University of Toronto identified the first helpful biomarker for the diagnosis of hypophosphatasia (PEA)

** Alexion Pharmaceuticals acquired Enobia in 2011 and AstroZeneca recently acquired Alexion in December 2020

If you would like to contribute financially to Soft Bones Canada, please visit our website at:

DONATE NOW

Farewell Message

Jennifer Boin

As of June 2021, I will no longer be on the Soft Bones Canada board of directors. I have made the difficult decision to step down in order to pursue other interests and to focus on my own health and family.

I want to say good bye and to thank those that I have had the extraordinary pleasure to work with. I have made trusted friends and life long connections because of my involvement in this organization. I have acquired new skills and abilities as well.

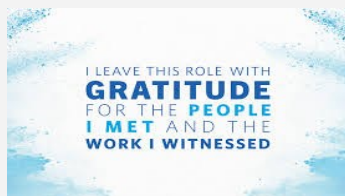
I am proud of the organization that we built and the good work that we have been able to do. Our goals were simple, to give patients a place to go to find information and to connect with one another. I believe we have accomplished that; however, there is always more that can be done.

This patient group will cease to exist unless patients and families with an interest in HPP get involved. That is not a threat, it is a fact. Many hands make light work, so I challenge each of you to get involved in some way, no matter how small.

As an HPP patient and registered member of Soft Bones Canada, I look forward to our paths crossing again.

Wishing you improved health and enduring hope.

Jennifer Boin



Report of the Scientific Advisory Committee to the Annual Meeting of Soft Bones Canada (SBC)

Sept 7 2020

The Scientific Advisory Committee of Soft Bones Canada (SBC) met once during the past year on a conference call on April 15, 2020. It was attended by Dr. Cheryl Rockman-Greenberg (Chair), Dr. Philippe Crine, Dr. Sandra Sirrs, Dr. Marc McKee, Dr. Bob Schroth, Dr. Leanne Ward, Mark Debrincat, Jessica Hartley, Amy Yakimoski and Alie Johnston (Dr. Rockman-Greenberg's research coordinators) and Linda Toews.

Dr. Rockman-Greenberg is a member of the Medical Advisory Board of the Alexion-sponsored Global Patient HPP Registry. As of the Spring 2020 the Registry has 745 patients enrolled from 17 countries. The Registry enrolls HPP individuals who are on enzyme replacement therapy (ERT) or are ERT naïve. The goal of the Registry is to provide Real World Data on HPP. With respect to Canadian stats, 29 patients (adults and children, both on and not on ERT) have signed consents and enrolled into Registry. 4 others have expressed interest. HPP Registry Medical Advisory Board met virtually on March 6-7, 2020. To date there have been approximately 20 different poster presentations and articles especially on the 5 year outcomes of the clinical ERT trials and data on diagnostic delays in Adult HPP patients.

Unfortunately the REBUILD Study (A Phase 4, Randomized, Multicenter, Open-Label, Pharmacodynamic Study of Asfotase Alfa in Adult Patients with Pediatric-Onset Hypophosphatasia) was cancelled by Alexion. 3 Canadian Sites were to have enrolled patients. No other clinical trial is being planned. This is very disappointing to everyone as, to date, adults with HPP are not eligible for ERT based on CADTH recommendations if they had not be on ERT since childhood. Additional strategies are being discussed how to expand reimbursement strategies to adults with HPP who meet eligibility criteria. Reimbursement strategies are still problematic in Quebec.

The Canadian HPP Clinical Expert Committee is active and receives requests from the provinces to consideration applications for beginning ERT and renewals. Its terms of reference, eligibility criteria for ERT and details of the application process can be found on the Garrod website www.garrod.ca. This Canadian HPP Clinical Expert Committee is encouraging physicians to provide complete medical information so that the committee can truly make an informed decision.

Additional points of discussion by the SAB

Mark McKee suggested there are some areas that could be improved on the Soft Bones Website and he is willing to work with the Soft Bones Directors to make the website better. Linda Toews gladly accepts his willingness to help and they will connect with each other on this item.

Dr. Mark McKee reported that the Dental program at McGill University is fully integrated with HPP teachings to first year dental students and is willing to share his teaching slides with Dr. Schroth and hopes we can implement the same teaching at the University of Manitoba and perhaps elsewhere.

Dr. Rockman-Greenberg wishes to remind SBC Board that at the Children's Hospital Foundation of Winnipeg there a fund designated specifically for HPP patient care, education, research and related initiatives. Any request or queries regarding this fund can be sent to her.

A Medical Meeting of metabolic specialists and endocrinologists will be held virtually sponsored by Alexion Canada virtually on Sept 1 5 2020. The aims are:

- To review what tools are available in Canadian centers to diagnose and monitor pediatric patients with HPP
- Reimbursement update on pediatric patients' access to ERT
- Adult data and update

Sincerely yours,



Cheryl Rockman-Greenberg MD, CM, FRCPC, FCCMP

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