



THE CONGRESS DAILY

THE OFFICIAL NEWSPAPER OF THE WFH 2016 WORLD CONGRESS

THURSDAY, JULY 28, 2016 • ORLANDO • WWW.WFH.ORG



/Michael Lutomski compares the risks involved in the practice of medicine and space flight operations.

NASA: WHAT IS AN APPROPRIATE LEVEL OF RISK?

Since the 1980s, when about 10,000 people with hemophilia tested positive for HIV after receiving contaminated blood, assessing and managing risk has been a core principle in the bleeding disorders community. This applies not only to blood supplies that can be infected with both known and unknown viruses, but also to the development of new treatment products.

In the Wednesday morning plenary “Managing the Risk of Human Space Flight: Lessons From 50 Years of NASA Human Space Flight,” Michael Lutomski, a former international space station risk manager for NASA, noted that both the hemophilia community and NASA operate in environments that do not tolerate risks or failure. And yet, both of these

[Continued on page 4.](#)

THINK OF SELF-CARE IN A NEW WAY

In 2007, Patrick Lynch’s younger brother, Adam, died of an intracranial bleed at age 18. Both Patrick and Adam were born with severe hemophilia A.

Patrick was only 22 at the time. “As you can imagine, the months and, quite frankly, the years that followed were challenging. I remember saying, ‘[Hemophilia] got him. It’s not supposed to happen to us anymore, but it got him,’” Patrick said during the Wednesday morning “Empowerment Through Self-Care” plenary.

Desperate to discover why Adam died, Patrick searched for a clue. He found it in the bottom of a duffel bag buried in a corner in Adam’s college dorm room. The bag was full of factor. Patrick suspects his brother had stopped his prophylaxis.



/Patrick Lynch speaks at Wednesday’s Self-Care plenary.

“I spent a considerable amount of time thinking about why he fell off his regimen,” Patrick said. “I finally determined that it was because my brother never identified as having a bleeding disorder. That took him off his regimen.”

Patrick has never felt the same way. He developed an inhibitor as a child, but immune tolerance induction eradicated it when he was 13. He was able to go on prophylaxis and live, as he refers to it, “A much more empowered life.” He got

involved in high school theater and majored in acting at Boston University.

Patrick has always valued self-care for his hemophilia, but Adam’s death made him realize that others—particularly children—may not.

[Continued on page 2.](#)

A BIG THANK YOU TO ALL

Hosting a WFH World Congress is a major endeavour and it wouldn’t be possible without our generous volunteers. Their commitment of both time and enthusiasm has helped make the WFH 2016 World Congress an amazing experience for everyone involved. A very special thank you goes out to the staff of the National Hemophilia Foundation (NHF), who so generously volunteered right after their own annual meeting last week at the Gaylord Palms Hotel and Convention Center. On behalf of the WFH staff and everyone who attended the Congress—thank you!



IN THIS ISSUE

02 Hep C

The latest in hepatitis C information.

02 Gene therapy

AAV for hemophilia A and B and other results from new studies.

03 Nursing debate

Issues: ports or peripheral access, low- or high-dose prophylaxis, circumcision and more.

03 Ageing Issues

Age levels and disciplines are addressed.

TODAY

08:45 – 10:15

Bleeding and Response to Treatment (Hall A4)

10:45 – 12:15

Ageing with Hemophilia (Hall B3)

Debate: Nurses Issues (Room 203)

Remember to stop by the WFH Resource Center.

HEPATITIS C: A VIRUS WITH SERIOUS IMPLICATIONS FOR HEMOPHILIA PATIENTS

Unlike HIV and HBV, hepatitis C (HCV) is not a disease for life. Cure rates have risen from 10% to now over 95% since the virus was discovered in 1991.

Dilip Moonka, Detroit, Michigan, USA, took the stage first Wednesday morning during “Hepatitis C Update: Complications and Side Effects.” Looking forward, he said drugs for HCV will be taken orally, have a cure rate of over 95%, will require less than 12 weeks of therapy and will be well tolerated.

Moonka said that in individuals exposed to the virus:

- 20% will clear the virus
- 75% to 85% will develop chronic infection
- 5% to 20% will develop cirrhosis, and
- Typically it takes 20 years to develop cirrhosis
- 5% to 20% of patients with cirrhosis will develop liver cancer

“You have to continue to screen for liver cancer if HCV has been cured if you have cirrhosis,” said Moonka. “Persons infected with HCV should refrain from excessive alcohol use and should be vaccinated against HAV and HBV if not immune.”

Moonka said there are two tests that are used to confirm HCV. The first is an HCV antibody test to screen for the virus. The HCV RNA (PCR) in the confirmatory test.

In order to successfully treat the virus, the patient’s genotype needs to be known. “The drug Harvoni is effective with genotype 1,” he said, warning that this drug should be used with caution if the patient is taking amiodarone and should be avoided if creatinine clearance is less than 30 ml/minute. “The drug AbbVie [offers] is also very well tolerated, even though more pills are taken. Zepatier can be given to



/ Gerard O'Reilly talks about his journey.

those with renal failure and we will still see cure rates close to 100%.” Drugs are also available for other genotypes that elicit a cure rate of more than 95%.

Magdy El-Ekiaby, Egypt, told the audience that Egypt is one of the countries in the world with the highest rate of infections. The HCV burden is great, with the 15 to 59 year age group estimated to be 7% infected. “This is an endemic infection with social, economic and political implications,” he said. “Ongoing transmission is still occurring with up to 200,000 new patients each year.”

He said the economic burden is \$670 million USD and intangible costs to society and families cannot be assessed. “Curing one patient saves \$10,000 and preventing an infection saves \$20,000.”

Until 2006 Egypt did not have a comprehensive national program for control of HCV. At that time the objectives became to

track prevalence, implement infection control, expand access to treatment and ensure high quality scientific research. In the 2011 to 2014 action plan, new drugs were launched and 400,000 patients were treated. “Government scaled up treatment centers nationwide and they should reach 100 by the end of 2016,” said El-Ekiaby. “Treatment guidelines are updated regularly and there is fast track registration of all approved new drugs with special pricing.” The government pays for 83% of costs, health insurance pays 9% and 8% is out of pocket.

Real-life results show that therapies have close to a 95% cure rate. “To achieve elimination, we need to increase annually the number of treated patients. Without significantly changing treatment strategies, HCV will remain a highly prevalent problem for the next 20 to 30 years,” he said.

Gerard O'Reilly, Ireland, told the audience that he was born in 1959 with severe hemophilia A. He received his first treatment at age 12, which gave him a better quality of life, but he had to travel long distances for on-demand treatment.

“In the 1970s, treatments became life changing and I could finish my education and work,” said O'Reilly. “The 1980s saw contaminated product and in 1986 I received a diagnosis of HIV. Still trying to cope with

this, in the 1990s they told me about a second virus, called non-A/non-B.” Diagnosed with HCV, he was offered his first treatment of interferon and spent 10 months on injections, which caused mood swings, nausea and were mentally draining.

“In 1997 new AVR drugs came on the market and within three months of taking them my HIV was undetectable, but my liver showed signs of fibrosis so my biggest challenge became hepatitis C.” With his liver moving toward cirrhosis, it was 10 more years before a new drug came onto the stage.

Doctors discovered a tumor on his liver in 2013. Chemotherapy was injected into the vein that fed the tumor. “I went to get a liver transplant, but failed the assessment as they discovered I needed a triple bypass. In the meantime the tumor started to grow and spread.” He had a liver transplant in 2014 with no rejection issues. “I now have 58% clotting factor, so goodbye hemophilia!” But the HCV virus still had to be tackled. HCV treatment is cost prohibitive in Ireland.

O'Reilly started his treatment in 2015 and was cleared of virus. However, the virus returned aggressively in May of 2016. He expects to start retreatment in September. “Life has changed a lot for me without hemophilia. I have a regime of walking every day. Hepatitis C is a very nasty virus, but with the support of friends I have learned a lot.”

Self-Care

Continued from page 1.

“It made me think about how we as a community are engaging young people,” he said. “And I saw an opportunity to use my acting background to create something that didn't exist.” His brother didn't connect to the bleeding disorders community in traditional ways, but like many young people, he loved comedy and the internet.

So Patrick formed a company, Believe Unlimited, and created an online comedy series styled after the TV show “The Office.” Dubbed “Stop the Bleeding,” the series—available at stbhem.com—is a mockumentary about a dysfunctional bleeding-disorders nonprofit organization. It uses humor to tackle serious topics like self-care and self-infusion, women with bleeding disorders and the history of hemophilia.

“We want to teach young people with a bleeding disorder, but we really want to inspire them,” Patrick said. The goal is to replace the stigma and fear of hemophilia with the idea that the disease can be “Funny or cool or even uplifting,” he said.

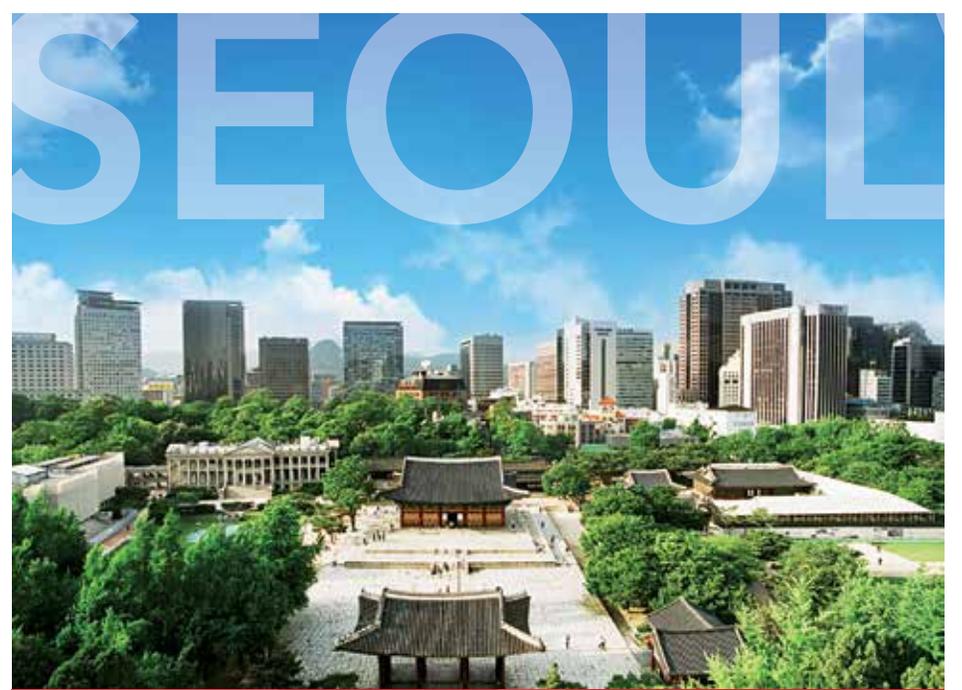
Since launching “Stop the Bleeding,” Patrick's company has also created a live speaker series

called “Powering Through”; the Impact Awards to recognize teens with bleeding disorders; a monthly podcast called “Bloodstream” and a claymation series called “Helping Hany” that examines the psychosocial implications of being a girl with a bleeding disorder. He's also produced videos for the WFH Treatment for All initiative.

All of this fits within Patrick's definition of self-care. “My journey and understanding of self-care has evolved,” he said. “It's not just self-infusing, stretching, and maintaining a good diet. For me, self-care is giving back to and empowering the community.”

He also acknowledges that he has a “Privileged definition of self-care—a privilege not shared by 75 percent of our community in developing nations.” That's why he believes people from the developed world have an obligation to help others who aren't able to self-infuse or do other aspects of self-care because they lack treatment options. This can include asking product manufacturers how they help people in developing countries and contributing to the WFH Humanitarian Aid Program.

“I miss my brother. For years, I thought about him every day,” Patrick said, his voice breaking. “Let's continue to ramp up our efforts for our brothers and sisters in developing countries so one day they too may enjoy a privileged definition of self-care.”



WFH 15TH INTERNATIONAL MUSCULOSKELETAL CONGRESS

Seoul, Republic of Korea

May 5-7, 2017



WFH

WORLD FEDERATION OF HEMOPHILIA

GENE THERAPY OFFERS ENCOURAGING POSSIBILITIES FOR HEMOPHILIA CARE

The 2016 WFH World Congress has seen incredible enthusiasm and excitement about the topic of gene therapy, said David Lillicrap, Canada, when he chaired “Medical Free Papers – Gene Therapy” yesterday afternoon.

Lindsey George, Pennsylvania, USA, spoke first about rAAV mediated gene transfer for hemophilia B.

She said that in 2011, research showed success for AAV8 vector for FIX, as there was no evidence of late toxicity sustained expression with circulating FIX activity levels of 1% to 6%. “The goal of gene transfer is sustained long term expression,” said George. “We want consistent and predictable results to subsequently build upon.”

In her team’s research, they used SPK-9001 investigational vector. Those that did not have

neutralizing antibodies to this vector were eligible for the trial. The transgene was a single strain. “The study enrolled adult males with FIX > 2% and no underlying HBV or HCV. The vector administered intravenously over one hour, outpatient,” George said.

“The 4 subjects treated all have negative rAAV neutralizing antibodies with SPK-9001 at a dose of 5×10^{11} vg/kg. We followed for 532 days and to date no subject required immunosuppression, there was no inhibitor development, we saw a marked reduction in factor use and bleeding events. 5×10^{11} vg/kg confers sustained FIX expression without need for immunosuppression,” she said. “To our knowledge these data represent the highest levels of sustained FIX expression at the lowest dose. Additional subjects and continued observation are needed to confirm initial results.”

John Pasi London, UK, said we have a completely new generation of therapies. “These require single infusion eliminating the dependency on repeated FVIII injections over a lifetime.”

Pasi told of research done with an AAV5 capsid vector, using a single stranded DNA. “This has been tested extensively in preclinical animal models. In this study we enrolled nine patients; eight were on prophylaxis and three had previous HCV infection. No participant had HIV or inhibitor to FVIII.”

Pasi said liver function elevation was relatively mild. FVIII expression on low dose had no change in baseline, while mid-dose showed stable FVIII activity for over 28 weeks. “In seven patients on high dose (BMN 270 at $6E13$ vg/kg), all had FVIII activity levels and six showed > 50 IU/dl. Bleeding essentially ceased after two weeks.”

Wolfgang Miesbach, Germany, also addressed hemophilia B with the premise that factor level determines phenotype. “We used the molecule AMT-060, which was prepared in the pharmacy, infused over 30 minutes by IV with 24 hour observation in the hospital.”



/John Pasi shares AAV5 FVIII gene transfer.



/Lindsey George describes SPK-9001 AAV therapy for hemophilia B.

He said the gene cassette was the same as used in the St. Jude/UCL study and corresponded to a meaningful reduction in FIX usages.

Adult patients with severe or moderate hemophilia B were included. Excluded from the study were those with preexisting neutralizing AAV5 antibodies, FIX inhibitors, active HBV, active HCV and uncontrolled HIV.

No evidence of sustained AAV5 capsid specific T cell activation was found. As expected all patients developed anti AAV5 antibodies. “A single treatment of 5×10^{12} gc/kg AMT in 5 patients was generally well tolerated after 30 weeks,” he said. “Results were stable with durable FIX activity and a mean of 5.4%. In 4 of 5 patients we saw discontinuation of FIX prophylaxis. This supports a wide application of AAV5 based gene transfer approach.”

BLEEDING AND RESPONSE TO TREATMENT

Correctly diagnosing a bleed is important to enable precision medical care, stated Annette von Drygalski, Associate Clinical Professor of Medicine, University of California, San Diego. “The physical exam, patient and physician perception of bleed diagnosis are unreliable. Symptoms and findings are non-distinct and do not help determine if joint pains are associated with bleeding,” she said.

The development of a point-of-care musculoskeletal ultrasound for rapid joint bleed detection and joint evaluation in the office by hemophilia providers has been successful and is increasingly being introduced into hemophilia clinics worldwide.

Diagnosis of bleeds using ultrasound or other imaging will be further addressed during the

General Plenary – Bleeding and Response to Treatment (How to Define a Bleed) today at 8:45. Dr. von Drygalski will be joined by David Page, National Executive Director, Canadian Hemophilia Society, and will speak about a patient view survey of different parts of the world. Kate Khair, Consultant Nurse, Great Ormond Street Hospital for Children NHS Trust, Visiting professor Health and Social Care, will address the topic of children who cannot speak for themselves.

Chair Paul Giangrande, Chairman of the Medical Advisory Board, European Haemophilia Consortium, will moderate the session.

08:45-10:15, Hall A4

NURSES TO DEBATE BEST CARE

The nursing debate session is a new session this year for nurses around the world who provide hemophilia care. Four nurses from Brazil, India, New Zealand and Sweden will participate in a panel addressing five selected “hot topics” in the bleeding disorders community:

- Ports: Superior to peripheral venous access for children beginning home infusion.
- Low dose prophylaxis is effective as high dose prophylaxis.
- Short term tertiary prophylaxis provides no benefit.
- Women with hemophilia: myth or reality?
- Neonatal circumcision in boys with hemophilia is child abuse.

The session will be chaired by James Munn, University of Michigan Medical Center. It is sure to generate discussion from the audience as each topic presents a “real life” decision and challenge for nurses caring for patients with

bleeding disorders. “The speakers represent resource-rich and potentially resource-poor areas internationally and each participant’s experience and approach to care (using evidence to support their claims) will be evident when they answer each topic area,” said Munn.

You won’t want to miss the “Debate: Nurses Issue” session today from 10:45 to 12:15. Speakers include: BJ Ramsay, New Zealand Haemophilia Treaters Group; Elaine Sandoval; Linda Myrin Westessen, Sahlgrenska University Hospital, Gothenburg, Sweden; and Sulochana Badababettu, Manipal College of Nursing, Manipal University.

08:45-10:15, Room 203

MANAGING THE CHALLENGES OF AGEING WITH HEMOPHILIA

Everyone goes through physical and emotional changes as they age. People with hemophilia have particular issues and challenges at different stages in their life, even with advances in chronic disease management. How to handle these life events will be addressed by an expert panel this morning at 10:45 during “Ageing with Hemophilia: Issues and Challenges Through Different life Stages.”

Speakers from across the globe will address young (18 to 25 years – Ekawat Suwataroj, Thailand), middle (25 to 40 years – Sergii Shemets, Ukraine) and older (50+ years – Val Bias, USA) adult issues. The panel will also include a psychologist – Anne Duffy, Ireland; an orthopedist – Adolfo Llinas, Colombia; and a dentist – Andrew Brewer, United Kingdom, presenting observations on ageing from their respective disciplines.

10:45-12:15, Hall B3

Corrections

In Tuesday’s *Congress Daily*, the title of Manuel Carcao’s presentation reported in the “Cutting-Edge research” story on page 6, was incorrect. The correct title is “Results from a randomized controlled trial on inhibitor development in PUPs: the SIPPET study.”

In Monday’s *Congress Daily*, the article “Building a better database can improve advocacy, research efforts” incorrectly stated that Canada uses Israel’s national patients registry when Canada, in fact, uses Australia’s registry.

NASA

Continued from page 1.

things are bound to happen; risk is unavoidable. So what is the best way to deal with these types of situations?

One key is continuous risk management, Lutomski said. We already do this almost every day of our lives, he said, using the example of choosing a flight to Orlando to attend this Congress. For instance, you may have managed the risk of missing a connecting plane by choosing a longer connection time.

NASA has a mind-boggling level of risk, Lutomski said, with a 3.4 percent failure rate

in launches each year. “Can you imagine crossing the street or driving a car with those odds—you’d never do it,” he said.

And yet, Lutomski said the common perception—even at NASA—was that space flight had the same level of risk as flying on an airplane. However, in 1986, the Challenger explosion changed that—much like the AIDS crisis changed the common perception that blood transfusions were inherently safe.

NASA responded to the Challenger crisis by rethinking how it handled risk. It instituted a risk-based decision-making framework and a risk threshold. Astronauts sign statements noting that they understand risks like a death rate of one out of every 270 crew members on a six-month expedition to the International Space Station. “We now have a more healthy realization of what risks we’re really taking,” Lutomski said.

One of the best ways to mitigate risk is to self-report, Lutomski said. But people have many reasons for not participating in risk assessment and reporting. They think they have no risk, their programs are too small, making risk public will kill a program, they prefer to deal with problems as they arise,

The Congress Daily is the official newspaper of the WFH 2016 World Congress.
Editor: Michel Semienchuk
Scientific Advisor: Magdy El Ekiaby
Editorial, design and production: CustomNEWS Inc., Tim Mercer, Vicky Uhland, Deb Nerud
Photography: Benjamin Peña and Denisse Springer

DONORS OF CONGRESS: EKAWAT SUWANTAROJ



Ekawat Suwantaraj has lived with severe hemophilia A his whole life, but he has never let it stop him from bringing smiles to people’s faces with his talent. He began drawing caricatures two decades ago and moved from Bangkok, Thailand to Wisconsin to pursue his passion. He shared his talents with the WFH community at the 2004 World Congress and returned to the WFH Resource Centre this year in Orlando to draw in exchange for a donation to the WFH Humanitarian Aid Program. Ekawat believes the WFH provides an important space for people of many different cultures to meet, exchange ideas and grow together. The entire PRD team is thrilled that Ekawat gave his time and talent to help us raise money for the Humanitarian Aid Program. Join our growing list of supporters at www.wfh.org/donateusa today!

CONGRESS WEBCASTING

Webcasts of selected sessions from the WFH 2016 World Congress program will be featured on the new WFH eLearning Platform following the completion of the Congress. Watch your favorite talk or catch one that you missed through these animated integrations of speaker presentations and slides. For selected talks, PowerPoint slides will also be available for download.

identifying risks is bad for their career, it’s not their job to fill out bureaucratic forms or they can’t assess risk because they can’t predict the future.

Not only does a successful risk-management system need to overcome those arguments, but it also needs to be humble and open to new information, Lutomski said. At NASA, that translates into continually questioning performance, looking at risks, and responding appropriately to failures when they occur.

DID YOU KNOW THAT...

The City of Orlando is known as “The City Beautiful.”

WFH CLINICAL RESEARCH GRANT PROGRAM

FUNDING OPPORTUNITY

The World Federation of Hemophilia’s Clinical Research Grant Program provides support for international clinical investigation relating to inherited bleeding disorders globally.

For more information and application deadlines visit www.wfh.org/crgp



WFH

WORLD FEDERATION OF HEMOPHILIA
FÉDÉRATION MONDIALE DE L’HÉMOPHILIE
FEDERACIÓN MUNDIAL DE HEMOFILIA



Glasgow, Scotland • May 20-24

THE LARGEST INTERNATIONAL
MEETING FOR THE GLOBAL
BLEEDING DISORDERS COMMUNITY

ORGANIZED BY: WORLD FEDERATION OF HEMOPHILIA
HOSTED BY: THE HAEMOPHILIA SOCIETY