Getting Back on the Olympic Track after Severe Injury

An Interview with James Ellington, Olympic sprinter*

AUTHOR: John Devine, PhD - Invibio Biomaterial Solutions

Occasionally I have the pleasure of speaking with patients who have benefitted from Invibio's implantable polymer technology. Doing so gives me a chance to stay connected with our patients and work toward continuous product improvement. Recently I sat down with one such patient, Olympic sprinter, James Ellington.

We began our conversation at the start of his Olympic journey, which he explained had never been easy. Without a sponsor or endorsements, James had to work hard. But his hard work paid off when he earned a spot on the Great Britain's Olympic team. James and his team went on to win the 4x100m bronze in the 2014 IAAF (International Association of Athletics Federations) World relays, silver in the 2014 Glasgow games and gold in the 2014 and 2016 European Championships. His career was at a high point.

But on January 17, 2017, his world came crashing down. While riding a motorbike he collided head-on with a car severely breaking his tibia, fibula, ankle and pelvis. James faced a challenge like never before.

"I've always been a resilient person," James said. "But I have really been tested this year. My biggest fear was that I would never run again."

I asked James why he and his doctor chose the trauma technology for his fracture fixation. James explained how he met with his doctor and discussed his options.

"In extreme situations, it's important not to lose faith and to consider all (therapeutic) options available," he said. "I had a severe tibia fracture and was offered two choices to fix it: a traditional Titanium nail or a Carbofix nail using a relatively new, but promising carbon fiber composite technology."

His doctor explained to James that both technologies were strong and that metal technology for trauma fractures was time tested. "I chose the Carbofix nail because it's lighter weight and for its faster healing potential." He explained, "The rod is made from a new composite polymer. It's strong, in a way that's similar to metal implants, but not as stiff, which means it has the capability to stress the bone more and provide some micro-motion, so it works more like natural bone. The idea is that this will help support a quicker recovery – which is what convinced me this was the right path for me."

PEEK-OPTIMA Ultra-Reinforced mimics bone in both strength and function. Lighter and less stiff than metal, it provides flexibility and micro-motion without undue stress on the internal screws. As a result, implants function more like natural bone, which is important for fluid running motion. These same properties also make the implant less likely to fracture, a common occurrence with metal implants, and may allow for greater bone union to occur.[1] In addition, implants made with PEEK-OPTIMA Ultra-Reinforced are radiolucent, enabling surgeons to visualize and assess fractures and healing via imaging both intra- and post-operatively more easily.

James and his surgeon carefully considered his career and the benefits of both options. "As an athlete, you have to make your own right choice," he said. "For me, it's about giving myself the best chance at achieving my goal and returning to competitive athletics."

James acknowledged that the implant's potential for accelerated healing and its long-lasting durability were key drivers in his decision. Ultimately, Ellington selected the CarboFix implant, calling it "the future".

I proceeded to ask James about his recovery and if the implant was living up to his expectations.

James was quick to respond that after just seven months with the CarboFix implant, made from

Fig. 1: CarboFix Piccolo Tibia Nail made with PEEK-OTPIMA Ultra-Reinforced composite polymer.

Provided courtesy of CarboFix Orthopedics

Invibio's PEEK-OPTIMA™ Ultra-reinforced composite polymer, his recovery was progressing well. Although he admits his journey is far from over.

James is a true believer in the power of technology and the mind. "Never ever listen to anybody tell you 'you can't' if you truly believe," Ellington emphasized.

Jogging on the treadmill for the first time, 21 weeks since his near career-ending accident, James remains optimistic about his future. He is steadfastly determined to come back better and stronger.

"Gonna make this leg even stronger than it was…I will not stop until my mission is accomplished," promised James. "I'm hopeful that I will be able to get back on the track."

Invibio's advanced polymer and CarboFix's Piccolo Trauma Nail are innovations that are changing the way we think about trauma fixation. By pushing the boundaries of medicine, patients like James not only have the possibility to get back on the track, but inspire other trauma patients to achieve their goals.

Shared Passion for Progress

UK Olympic sprinter James Ellington has always pushed boundaries and himself. That's why he chose to partner with Invibio Biomaterial Solutions and Carbofix Orthopedics for his fracture treatment. Invibio's advanced polymer and CarboFix's Piccolo Trauma Nail are innovations that are changing the way we think about trauma fixation. By pushing the boundaries of medicine, patients like James not only have the possibility to get back on the track, but inspire other trauma patients to achieve their goals.*

To hear more about James' story of recovery, visit his Instagram account at https://www.instagram.com/jimmyells/ He hopes his story inspires other patients to overcome their own personal challenges and become advocates for continued medical innovation. ▲

ABOUT THE AUTHOR

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Dr. John Devine is the Medical Business Director for Invibio Biomaterial Solutions and offers years of experience in the medical device industry across multiple geographies. His leadership in identifying unmet clinical needs and the creation of new products and business models has contributed greatly to a portfolio of innovations for the device industry. In 1995, he received a PhD in Polymer Chemistry from the University of St. Andrews, United Kingdom. Dr. Devine also holds a Masters degree in Process Technology and Management from the University of Strathclyde, United Kingdom.

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1. Jo Wilson, PhD; Matthew Cantwell; Polyether Ether Ketone (PEEK) Carbon Fiber Composites May Improve Healing of Fractures Stabilized with Intramedullary Nails. (Basic Science Focus Forum, paper #4, 2014) 155.

*During 2017, James Ellington contracted with Invibio Ltd. as a consumer endorser.

The testimonial presented has been provided by a recovering patient. His view and experiences are his own and do not necessarily reflect those of others. "Invibio" disclaims any liabilities or loss in connection with the information herein.

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