Smarter questions: Expert to expert

Connecting scientists and clinicians, the Bone and Joint Institute facilitates relevant research

In 2016, Dr. Emil Schemitsch was appointed chair of the Department of Surgery at Western’s Schulich School of Medicine & Dentistry — one of the school’s most significant additions in the last two decades.

Schemitsch, an orthopedic surgeon by trade, is a heavyweight in the field of musculoskeletal health. A past president of the Canadian Orthopedic Association and Canadian Arthroplasty Society, he worked as chair of Fracture Care Research at St. Michael’s Hospital in the heart of Toronto until 2015.

While there, Schemitsch realized he could only push his research so far.

“Bone and joint research was a comparative afterthought in Toronto,” Schemitsch said. “It’s a real priority area here. I would say that the division of orthopedics is one of the strongest in the country. That was attractive.”

Schemitsch came to London to helm the Department of Surgery. He also found something unique: an emphasis on musculoskeletal health, and a group of transdisciplinary experts able to enhance his research.

“When it comes to large projects that have something to do with musculoskeletal research, you immediately have a group of people with diverse skills,” Schemitsch said. “It’s an instant group of collaborators.”

Having the right people already in place means that research progress can happen at an accelerated pace.

The Bone and Joint Institute was formed in 2015 as a catalyst for those collaborations, especially with people like Schemitsch — skilled, on-the-ground experts able to focus research on clinically relevant problems.

Three years later the institute boasts a burgeoning foundation predicated on collaborations with surgeons, rheumatologists, and physiotherapists, to name only a few. Input from
Multiple disciplines is vital for musculoskeletal health research, like the clinical studies performed in the Wolf Orthopaedic Biomechanics Laboratory at Western, co-directed by a physiotherapist, an orthopaedic surgeon and an engineer.

“IT’S IMPORTANT TO INCLUDE PATIENTS AND DIFFERENT TYPES OF CLINICIANS PROVIDING CARE FOR THOSE PATIENTS, TO MAKE SURE WE’RE ASKING THE RIGHT QUESTIONS,” SAID LAB CO-DIRECTOR AND PHYSIOTHERAPIST DR. TREvor BIRMINGHAM.

Birmingham studies the effectiveness of treatments for people with bone and joint conditions, often testing the combination of different interventions. His work is directly connected to physicians and physiotherapists, people who apply his research in the context of a “real-world” practice.

“It’s important to get the physiotherapists involved from the beginning. You want your research to have an end goal,” said Jackie Sadi, a physiotherapist and Field Leader within the Master of Clinical Science Program at Western’s School of Physical Therapy, said.

Joining the Bone and Joint Institute has given Sadi the chance to collaborate with researchers working on solutions for bone and joint problems. Through these collaborations she can advise them on common problems her patients experience, focusing their research on real-world application.

“JUST BEING IN THE SAME ROOM HELPS ACCELERATE THAT RESEARCH,” SADI SAID. “I’VE BEEN A PHYSIOTHERAPIST FOR 30 YEARS. I UNDERSTAND THE PROBLEMS PEOPLE ACTUALLY HAVE.”

Clinicians can work with scientists to solve modern bone and joint problems. With enough focused research, those solutions could one day change best practice guidelines and influence care quality, to benefit people around the world who suffer from musculoskeletal conditions.

“When I see a problem or complication with inflammation, I want to better understand the impact it has on my patient,” Dr. Tom Appleton, a rheumatologist and Bone and Joint Institute scientist, said. “But no one person can answer big complex questions on their own. You need those connections.”

For clinician scientists like Birmingham and Appleton it helps to have skilled people able to identify gaps in different areas of musculoskeletal healthcare.

The institute brings people together in a unique way, Appleton added, which helps to quickly transform those clinical barriers into research questions that will impact patients’ well-being.

The Bone and Joint Institute is still relatively new, and fostering transdisciplinary research is a multi-year process.

But the pieces are in place. Schemitsch connected with the Bone and Joint Institute shortly after he arrived at Western University. Three years in he says there’s work still to do — and that he is looking forward to it.

“There’s an opportunity here,” Schemitsch said. “There’s potential.”