## *A patient's view*

Sherry Bassin knows first-hand the value of orthopaedic surgery and care. After all, as the recipient of four new hips and two new shoulders, Sherry says he has more joint implants than real moveable body parts –all thanks to advancements in research.

"Imagine a world without research," says Sherry. "Because of research advancements in orthopaedic surgery, and my surgeon, Dr. James Waddell, my quality of life has changed. I am able to lead a busy, active life at 78 years of age, despite being challenged by osteoarthritis."

Seven years ago, after his third successful joint replacement surgery, Sherry wanted to give something back to support the orthopaedic community that had served him so well. He introduced the *Bassin Bad to the Bone* Charity Golf Classic, which has raised more than half a million dollars for the Canadian Orthopaedic Foundation (COF) to date. And last year, he joined the COF's Board as a Director.

"At the last Board meeting we heard from Research Committee Chair Dr. Rick Buckley about the research projects the committee recommended for funding. I must say, I'm so impressed by the researchers working to find better treatments for people like me – people who will benefit by advancements in bone and joint surgery, treatment and care."

Sherry urges everyone to read through this report to see the research projects currently being funded by the COF. "This research will make a difference for ALL of us affected by bone and joint issues. THANK YOU to all of the donors for supporting the research, education and care programs of the COF."

Sherry Bassin
COF Director, and Orthopaedic Patient

## *2017 COF Research Awards: Special Named Awards*

**J. EDOUARD SAMSON AWARD:**

**Dr. Kishore Mulpuri** (Vancouver, BC) – *A Prospective, International Hip Dysplasia Registry with Follow-up to Skeletal Maturity: An Analysis of Risk Factors, Screening Practices and Treatment Outcomes*

**Dr. Mulpuri explains:** Developmental Dysplasia of the Hip (DDH), or hip dysplasia, is the most common hip problem in infants and young children. BC Children's Hospital has led the transition of an international study on children with dislocated hips into an International Hip Dysplasia Registry (IHDR) with a truly global impact. This is the first DDH study of its kind in size and scope, prospectively following children with all forms of DDH until they have reached skeletal maturity and beyond. There are 18 participating centres across six countries and four continents, providing an unprecedented platform to bring about actionable change in practice that will benefit all children born, not only in BC, but around the world. This registry will allow us to better understand how to screen, diagnose and treat infants and children with hip dysplasia around the world, leading to happier, healthier and more mobile lives.

**DR. CARROLL A. LAURIN AWARD FOR EXCELLENCE IN CLINICAL RESEARCH:**

**Dr. Paul E. Beaulé and Dr. Stéphane Poitras** (Ottawa, ON) – *Efficacy of a non-surgical treatment protocol for patients with symptomatic femoro-acetabular impingement: a randomized controlled trial*

**Drs. Beaulé and Poitras explain:** Femoro-acetabular impingement (FAI) is a condition where the ball shaped femoral head of the leg rubs abnormally in the hip socket, which can lead to hip osteoarthritis. Research has shown that patients with FAI move their hips differently when doing tasks. The project will examine if an exercise program focusing on pelvis movement can reduce pain and improve function, change hip movement and prevent hip cartilage damage. If effective, a non-surgical, low-cost, highly feasible and accessible intervention will be available to improve pain, function, and prevent hip cartilage damage in patients with FAI.

**DR. ROBERT B. SALTER AWARD FOR EXCELLENCE IN BASIC SCIENCE RESEARCH:**

**Dr. Michael J. Monument** (Calgary, AB) **–** *rhBMP-2 in bone sarcoma surgery: Does BMP-2 signalling in mouse models of osteosarcoma influence tumour biology?*

**Dr. Monument explains:** Osteosarcoma is an aggressive bone cancer (Terry Fox cancer), which primarily affects children and young adults. Curative treatment typically involves massive bone resections and complex limb reconstructions ("limb salvage surgery"). Bone healing is impaired in these patients, contributing to devastating complications such as infection, delayed bone healing and revision surgeries. Bone Morphogenetic Protein-2 (BMP-2) is a Health Canada approved bone healing stimulant approved for use in spine and trauma surgeries; however, its use is prohibited in sarcoma surgery due to controversial safety concerns about cancer promoting side effects. In this study, we are using established mouse models of osteosarcoma to evaluate whether this important bone healing augment may be safe to use in bone sarcoma surgeries.

**INAUGURAL DR. CY FRANK AWARD FOR INNOVATIVE EXCELLENCE:**

**Dr. Bas A. Masri, Dr. David R. Wilson and Dr. David J. Stockton** (Vancouver, BC) – *Reliability of Cartilage Mapping Using Upright Open MRI in Patients with ACL Injuries*

**Drs. Masri, Wilson and Stockton explain:** Anterior cruciate ligament (ACL) rupture is a common injury that disrupts the biomechanics of the knee and is associated with the early degeneration of knee cartilage (i.e. knee osteoarthritis). Surgery to reconstruct the torn ACL is supposed to restore normal joint biomechanics. Why then, does it not reduce the risk of future arthritis? To address this question, we will use a new Upright Open MRI that is able to measure cartilage tissue biomechanics in standing, load-bearing positions. If we can prove that this new technology is a reliable 'functional' imaging technique for injuries that affect cartilage, we can begin to understand how surgeries designed to restore normal biomechanics might be improved.

# 2017 CORL (Canadian Orthopaedic Research Legacy) awards

**Dr. Ryan Degen** (London, ON) **–** *A kinematic analysis of the hip following injury and repair of the capsule and labrum*

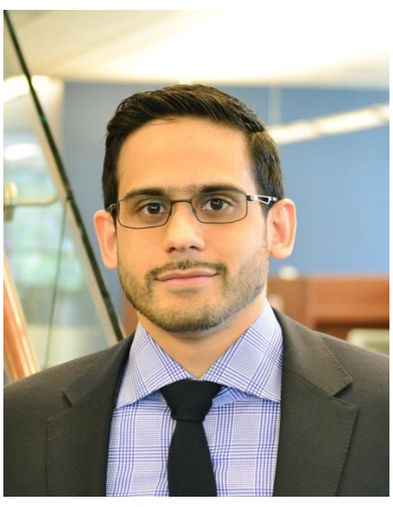
**Dr. Degen explains:** The purpose of this project is to develop a novel, biomechanical testing apparatus that will allow evaluation of hip joint kinematics in the intact hip and following various hip preservation surgical procedures. A cadaveric testing apparatus will be developed, utilizing optical tracking software, as well as CT imaging with radiostereometric analysis (RSA), to evaluate the kinematic effects of various procedures, focusing on range of motion, joint translation and soft-tissue strain. This research will provide important objective information on common procedures to allow critical appraisal to improve current treatment algorithms and improve patient outcomes.

**Dr. Laurie A. Hiemstra** (Banff, AB) – *SHould You transFer the Tubercle? (The SHYFT Trial) - A Randomized Clinical Trial comparing Isolated MPFL Reconstruction to MPFL combined with Tibial Tubercle Osteotomy – A Pilot Study*

**Dr. Hiemstra explains:** People who dislocate their kneecap (patella) often have ongoing pain and decreased function. They have difficulty being active because they don't trust the stability of their knee. Surgery to stabilize the kneecap with a ligament reconstruction is the treatment of choice for people who have multiple dislocations. In addition to reconstructing the ligament that stabilizes the patella, surgeons can change the pull of the muscles on the kneecap by moving a piece of bone where the patellar tendon attaches below the knee. This is an additional surgery, called a tibial tubercle transfer, and it is used to improve the alignment of the kneecap.

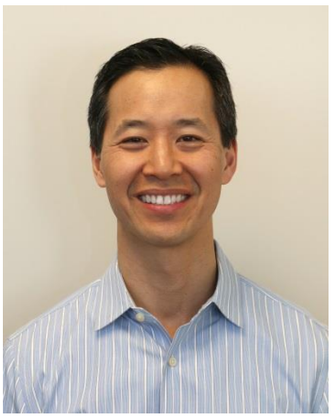
It is not clear from the research which patients really need the tubercle transfer to gain the best outcome from their surgery. It is also important to study these operations to find out if the extra procedure increases the risk of complications or leads to more post-operative pain. This study will randomly allocate patients to receive either the ligament reconstruction, or the ligament reconstruction plus the tibial tubercle transfer, to assess who could benefit from a tubercle transfer and whether or not this additional surgery is necessary. Results from the study will provide surgeons with direct information about which operations give the best quality of life and functional outcomes for a patient with a dislocating kneecap.

**Dr. Moin Khan** (Hamilton, ON) – *Shoulder instability Trial comparing Arthroscopic stabilization Benefits compared with Latarjet procedure Evaluation (STABLE)*



**Dr. Khan explains:** The shoulder is the most commonly dislocated joint in the body, and shoulder dislocations often become a recurring problem. Surgical treatment aims at stabilizing the shoulder; however, the ideal procedure for many of these cases remains unknown. This study will compare the two most common surgical treatments to provide physicians treating this condition with a definitive answer as to the best treatment for recurring shoulder dislocations.

**Dr. Ian Lo** (Calgary, AB) – *Graft reconstruction for irreparable rotator cuff tears: superior capsule reconstruction vs. tendon repair with graft interposition*



**Dr. Lo explains:** Massive rotator cuff tears in the shoulder are sometimes so large that they cannot be repaired using standard surgical methods. This study aims to evaluate a new method of attempting to repair these otherwise "irreparable" tears. The new method involves attaching the torn tendon ends in a different place than anatomy suggests. This new technique has been shown to restore shoulder function by the designing institution. Our study will compare this new technique to the current standard which adds a "bridge" of material to the torn tendon to complete an anatomic repair.

**Dr. Peter MacDonald and Dr. Jeff Leiter** (Winnipeg, MB) – *Number One Overall Graft Pick? Hamstrings versus Bone-Patellar-Tendon-Bone versus Quadriceps Tendon Graft for ACL Reconstruction: A Prospective Cohort Study*

**Drs. MacDonald (L) and Leiter (R) Explain:** Anterior cruciate ligament (ACL) reconstruction is a commonly accepted and proven treatment for individuals participating in high-risk sport or activities. However, despite its success, not all individuals are able to return to their previous level of competition or activity. There is controversy over what is the best graft to use, and rerupture rates can be higher in young female athletes. Our research is designed to determine what graft will provide the lowest risk of re-injury, as well as the highest level of functional performance so that individuals can return to the activities they enjoyed prior to injury.

**Dr. Prism S. Schneider** (Calgary, AB) – *Validation of a Self-Administered Outcome Measure for Young Patients With Hip Trauma*

**Dr. Schneider explains:** Traumatic hip injuries often occur in young, active patients, who expect a full recovery, including return to their work and extra-curricular activities. The Canadian Orthopaedic Trauma Society Hip Outcome Score (COTS-H) is a self-administered questionnaire that was designed to assess surgical outcomes, patient satisfaction, and return to pre-injury activity for young patients following hip trauma. This study will validate the COTS-H tool, so that it may be used to help enhance the health of young Canadians with traumatic hip injuries by improving our surgical treatment decisions, post-injury rehabilitation, and information for counselling patients.

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