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Schroeder Arthritis Institute

# Clinical Operations

**SCHOLARSHIP SPOTLIGHT**

2020-2021



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The recommended citation of this report:

**Schroeder Arthritis Institute Clinical Operations Scholarship Spotlight 2020-2021 (June 2021).**

**Schroeder Arthritis Institute, University Health Network. Toronto, ON.**

**Volume 1.0: June 18, 2021**

**Schroeder Arthritis Institute**

**Toronto Western Hospital**

**University Health Network**

[www.uhn.ca/Arthritis](http://www.uhn.ca/Arthritis)



## Letter from our Leadership

We are pleased to present the inaugural **2021 Clinical Operations Scholarship Spotlight** for the Schroeder Arthritis Institute at University Health Network (UHN). This report profiles the scholarship progress and activities by our Clinical Operations team over the past year, bringing together care, research and education for the betterment of patients, improving care delivery and efficiency, and contributing to research and education for our teams and beyond.

While this has been a very challenging year, TeamUHN has risen in extraordinary ways to meet those challenges. The COVID-19 pandemic has shown us how critical continuing to advance clinical care, research and education is in ensuring a healthier world. Driven by a passion to make a difference in the lives of our patients, our Clinical Operations team have embarked on scholarship initiatives that are focussed on developing new treatments, and innovative models of care, to help our patients better manage their symptoms, improve their mobility and achieve productive and fulfilled lives, free of pain and disability.

This work has been undertaken by our front line clinicians and operations teams to support UHN's vision of *Transforming lives and communities. through excellence in care, discovery and learning.*

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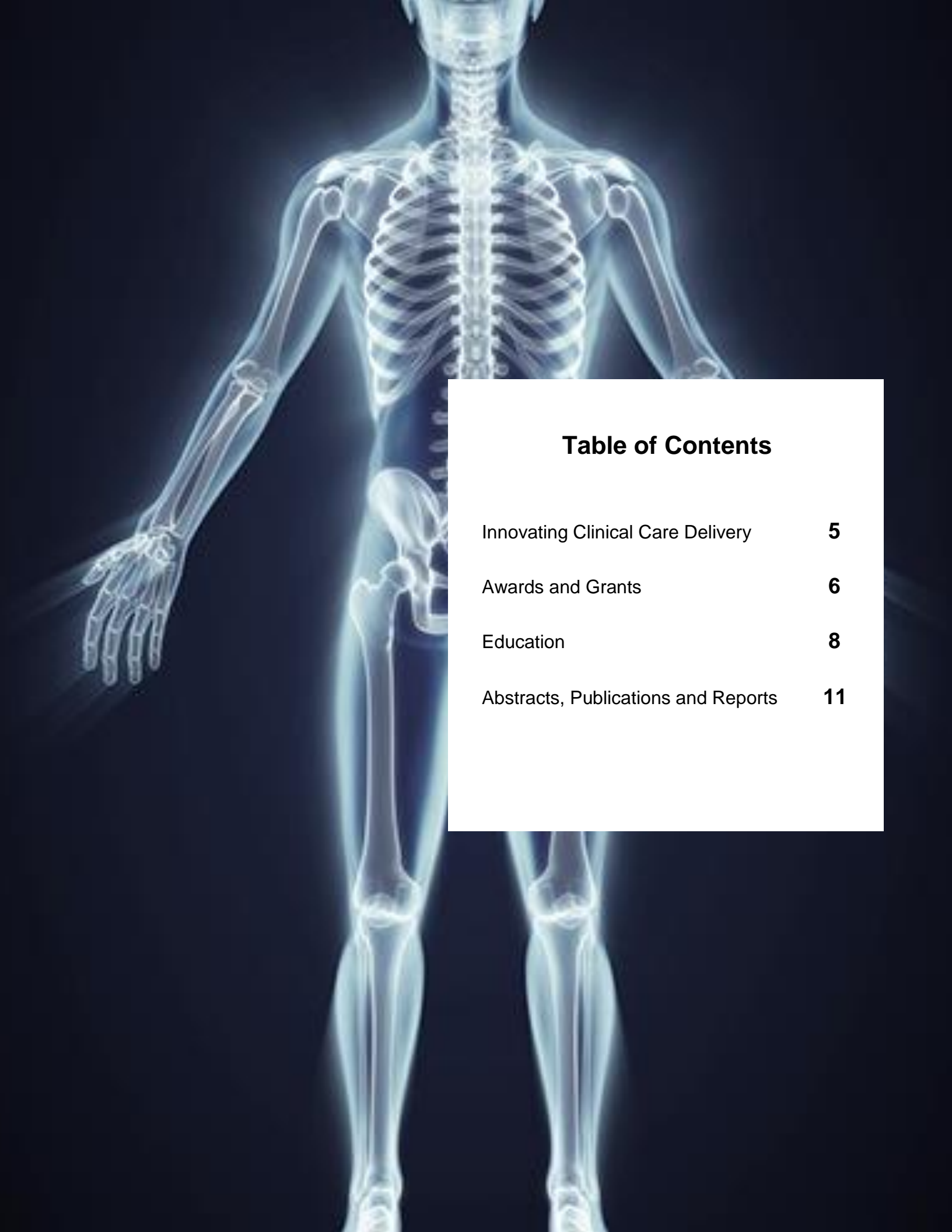
**Silvi Groe**, RN, BScN, MN, GNC(C)  
Clinical Director,  
Schroeder Arthritis Institute, TWH,  
CIPP and MSK Rehab, Geriatric Rehab,  
ECHO and Dental Services,  
Toronto Rehabilitation Institute,  
University Health Network

A handwritten signature in black ink, appearing to read "Rob Inman".

**Rob Inman**, MD, FRCPC, FACP, FRCP Edin  
Co-Director Schroeder Arthritis Institute,  
Deputy Physician in Chief Research,  
University Health Network,  
Professor of Medicine and Immunology  
University of Toronto

A handwritten signature in black ink, appearing to read "Fayez A. Quereshey".

**Fayez A. Quereshey**, MD, MBA, FRCSC, FACS  
Vice President (Clinical)  
Surgical Oncologist & Minimally Invasive Surgeon,  
University Health Network  
Associate Professor, Department of Surgery,  
University of Toronto



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Schroeder Arthritis Institute

# Innovating Clinical Care Delivery

From Canada's leading Arthritis Clinical Program



**5 Leadership**

**24 Frontline Clinicians**

- 16 Advanced Practice Practitioners & Provincial Practice Leads
- 6 Physicians
- 2 Integrated Care Leads (Clinical Care Coordinator)

**2 Partners** (TECHNA & Altum Health)

**16 Research Collaborators**



**24 Abstracts & Publications**



**15 Education Tools & Initiatives**



**5 Awards & Grants**



**Spanning local, provincial, national and international stages**



# Awards and Grants

## Carolyn Thomas Award for Best Scientific Abstract



**Laura Passalent**, Physiotherapist Practitioner and Clinician Investigator at the Schroeder Arthritis Institute, received two Arthritis Health Professions Association's Carolyn Thomas Award for Best Scientific Abstract. The title of the abstracts are *Perceptions, Facilitators and Barriers of Physical Activity in Axial Spondyloarthritis: Results from a Qualitative Study* and *Axial Spondyloarthritis: Knowledge, Screening and Referral Practices Amongst Primary Care Providers*.

## University of Toronto, Department of Physical Therapy, Exceptional Achievement Award



**Leslie Soever**, Physiotherapist Practitioner was awarded the Exceptional Achievement Award, Practitioner Category, at the annual awards ceremony in the Department of Physical Therapy, Termerty Faculty of Medicine, University of Toronto. This award recognizes a Physical Therapist who demonstrates expertise in a clinical content area, a best practice approach to delivering patient-centred care; and participates in the development of their practice and the development of others, thereby making exceptional longstanding contributions to the Physical Therapy profession.

## Arthritis Health Professions Association (AHPA) Clinical Innovation Award

**Marcia Correale, Tamara Gotal, Andrew Courchene, Marsha Alvares, Emily May, and Leslie Soever**, Physiotherapist Practitioners at the Schroeder Arthritis Institute, Division of Orthopaedic Surgery, were presented with the Clinical Innovation Award at the AHPA Annual General Meeting, for their work on urgent implementation of virtual care, for patients with spine, shoulder/elbow, hip/knee and foot/ankle conditions. This award showcases clinical initiatives, including those that assess, treat, educate or otherwise support people living with arthritis in new and innovative ways.



## Spondyloarthritis Research Consortium of Canada (SPARCC) Grant



**Laura Passalent**, ACPAC Physiotherapist Practitioner and Clinician Investigator at the Schroeder Arthritis Institute, was awarded a one-year seed grant through the Pilot Project Research Program for the project titled "**We Got Your Back, version 2.0: Pan-Canadian Implementation and Evaluation of an E-learning Patient Education Program in Axial Spondyloarthritis – A Pilot Study**".

## UCB Canada – Investigator Initiated Unrestricted Grant

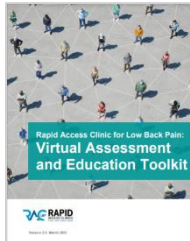


**Laura Passalent**, ACPAC Physiotherapist Practitioner and Clinician Investigator at the Schroeder Arthritis Institute, was awarded an investigator initiated unrestricted grant from UCB Canada to expand the current project *Axial Spondyloarthritis Screening Pilot: Bridging the gap beyond the Greater Toronto Area*, to pilot axial spondyloarthritis screening program beyond the GTA out of St. Joseph's Health Care in London, Ontario, with Dr. Sherry Rohekar and Dr. Tristan Boyd as co-investigators. This is in collaboration with the South Western LHIN's Rapid Access Clinic Low Back Pain program, located at London Health Sciences Centre.



# Education

## ISAEC RAC LBP Virtual Assessment and Education Toolkit



Developed by provincial Low Back Pain (LBP) RAC provider network, *The Virtual Assessment and Education Toolkit* provides guidance and education on how to conduct standardized assessments and deliver guideline-based care to manage patients with back pain virtually within Ontario's LB RACs during the COVID-19 pandemic.

- [ISAEC RAC LBP Virtual Assessment and Education Toolkit](#)
- [RAC-LBP Virtual Care Provider Video](#)
- [How to Prepare for a Virtual Assessment Video](#)

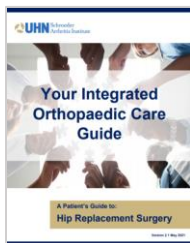
## Virtual Pre-Operative Patient Education Class for Hip and Knee Replacement



The virtual education class, facilitated by Schroeder Arthritis Institutes 9A inpatient Physiotherapy and Nurse Practitioner teams, offers education and support to patients pre-operatively as they prepare for their surgery, acute care stay and rehabilitation at home. The session is structured in a video presentation followed by an active Q&A opportunity to connect with their care team.

- [Knee Replacement Surgery](#)
- [Hip Replacement Surgery](#)

## Your Integrated Orthopaedic Care Guide for Hip and Knee Replacement Surgery



*Your Integrated Orthopaedic Care Guide* for total hip and knee replacement surgery offers a comprehensive description of the overall surgical pathway and key contact information and to support patients through each step of their total joint replacement journey, including preparing for surgery, recovery at home and outpatient rehab through UHN's Altum Health rehabilitation clinics. The guide provides links to additional resources including the UHN's *My Surgery* book, Schroeder Arthritis Institute website and pre-operative patient education.

- [Your Integrated Orthopaedic Care Guide for Hip Replacement Surgery](#)
- [Your Integrated Orthopaedic Care Guide for Knee Replacement Surgery](#)



## **Joint Specific Patient Preparatory Videos for Virtual Assessment**

Joint specific patient preparatory videos for virtual orthopedic consults were created by the APP team to assist in preparing patients for their upcoming Rapid Access Clinic virtual assessment. Videos include tips on technology and space set up, appropriate attire and a review of the physical exam portion of the assessment. These videos have resulted in improved efficiency of the virtual consult and a more prepared patient, improving both patient and provider experience.

- [Elbow and Shoulder Rapid Access Clinic: Preparing for your Virtual Assessment](#)
- [Hip and Knee Rapid Access Clinic: Preparing for your Virtual Assessment](#)
- [Foot and Ankle Rapid Access Clinic: Preparing for your Virtual Assessment](#)
- [Low Back Rapid Access Clinic: How to Prepare for a Virtual Assessment Video](#)

## **Provider Preparation Videos for Virtual Assessment (Funded by Bone and Joint Canada)**



Bone and Joint Canada developed clinical documents to support health care providers with standardized MSK virtual care in consultation with a network of inter-professional MSK clinicians across Canada with recognized expertise in virtual care. The clinical team at UHN contributed to the virtual care documentation development and were also recognized for their work in producing both patient and provider videos. This acknowledgement resulted in dedicated funding to create provider specific videos for spine, hip-knee, foot-ankle and shoulder-elbow to supplement the written content developed by Bone and Joint Canada for standardized MSK virtual care.

## **Advanced Clinician Practitioner in Arthritis Care: A 10-Month Academic and Clinical Training Program**



The Advanced Clinician Practitioner in Arthritis Care (ACPAC) Program is a unique post-licensure academic and clinical educational program. It prepares select and experienced physical therapists, occupational therapists, nurses, and chiropractors for extended practice roles by providing advanced training in the diagnosis and management of patients with arthritis. This innovative, interprofessional program is hosted in Toronto, Canada at The Schroeder Arthritis Institute, in collaboration with the University of Toronto, Temerty Faculty of Medicine's Continuing Professional Development Office. Graduates of this program are instrumental in the development and implementation of innovative models of arthritis care on local, national, and international levels.

## **ACPAC Monthly Lecture Series - Keeping Graduates Informed and Connected during the COVID-19 Pandemic**

Since September 2020, ACPAC graduates from across Canada and internationally have been able to learn and stay connected through a monthly lecture series hosted by the ACPAC Program. Participants have benefited from a wide variety of arthritis-related topics with UHN faculty including: Reactive Arthritis (Dr. Robert Inman); Ehlers-Danlos Syndromes and Hypermobility Spectrum Disorder (Leslie Soever); Cognitive Dysfunction in SLE (Dr. Zahi Touma); Chronic Relapsing Inflammatory Osteoarticular Disorders: A Review (Laura Passalent); Crystal Arthropathies: Gout and Calcium Pyrophosphate Deposition Disease (Dr. Ahmed Omar); Spine Imaging Review (Dr. Christopher Nielsen); and Hallux Rigidus: To Fuse or Not to Fuse (Dr. Johnny Lau and Tamara Gotal).

## **UHN Advanced Practice Rounds: Clinical Cases & Journal Club**

These well-attended monthly rounds were developed by one of the Physiotherapist Practitioners in the Schroeder Arthritis Institute, as part of the Interprofessional Arthritis Care Fellowship. Held virtually, they bring advanced practice physiotherapists, occupational therapists, chiropractors, and nurses from across Canada together to share clinical knowledge and review arthritis-related research. The concept of these rounds was developed with the vision and support of a generous donor.

# Abstracts, Publication and Reports

TITLE	AUTHORSHIP	ASSOCIATION
<a href="#"><u>A Novel Advanced Practice Physiotherapist (APP) led Clinic, Improved Access to Care for Patients with Foot and Ankle (FA) Pathology</u></a>	T. Gotal, J. Lau	<b>Poster Presentation</b> (available on request)  Ontario Physiotherapy Association (OPA) InterACTION Conference April 17, 2021
<a href="#"><u>Advancing Early Identification of Axial Spondyloarthritis: An Interobserver Comparison of Extended Role Practitioners and Rheumatologists</u></a>	L. Passalent, C. Hawke, DO, Lawson, A. Omar, KA. Alnaqbi, D. Wallis, H. Steinhart, M. Silverberg, S. Wolman, L. Derzko-Dzulynsky, N. Haroon, RD. Inman	J Rheumatol. 2020 Apr; 47(4):524-530.
<a href="#"><u>Bridging the Gap between Symptom Onset and Diagnosis in Axial Spondyloarthritis: an Integrated and Stratified Model for Early Detection</u></a>	L. Passalent, K. Sundararajan, AV. Perruccio, C. Hawke, N. Haroon, RD. Inman and R.Rampersaud	IFIC North American Conference on Integrated Care 2021*
<a href="#"><u>Bringing Integrated Care Home: Piloting a Patient Care Navigation Role for Total Joint Replacement Patients</u></a>	S. Rose, S. Mian-Valiante, S. Groe, C. Veillette, R. Gandhi, M. Zywiell	IFIC North American Conference on Integrated Care 2021*
<a href="#"><u>Exploration of a Patient Care Navigator Role to Integrate Care for Patients Receiving Total Joint Replacement Surgery</u></a>	L. Maynard, M. Vignarajah, M. Alvares, S. Mian-Valiante, S. Groe, C. Veillette	IFIC North American Conference on Integrated Care 2021*
<a href="#"><u>Finding Where Technology Fits: An Integrated Comprehensive Care Program Development Example</u></a>	M. Vignarajah, K. Lane, L. Maynard, M. Alvares, S. Mian-Valiante, C. Veillette	IFIC North American Conference on Integrated Care 2021*
<a href="#"><u>Implementing a Centralized Assessment Model for Foot and Ankle Patients: An Exploratory Analysis</u></a>	T. Gotal, S. Mian-Valiante, M. Alvares, J. Lau	IFIC North American Conference on Integrated Care 2021*
<a href="#"><u>Learnings from the Field – An Integrated Model of Care for Hip and Knee Bundle Patients at UHN</u></a>	M. Alvares, S. Mian-Valiante, S. Groe, K. Lane, L. Meschino, C. Veillette	<b>Poster Presentation</b> (available on request)  Ontario Physiotherapy Association (OPA) InterACTION Conference April 17, 2021
<a href="#"><u>Learnings from the Field – An Integrated Model of Care for Hip and Knee Bundle Patients at UHN</u></a>	M. Alvares, S. Mian-Valiante, S. Groe, C. Veillette	IFIC North American Conference on Integrated Care 2021*

<a href="#"><u>Low Back RAC - ISAEC Model of Care A look at the way COVID-19 is changing the delivery of care for low back pain patients across the province of Ontario</u></a>	M. Correale	Physiotherapy Today
<a href="#"><u>Multi-stakeholder Engagement and Development of a Virtual Care Toolkit for Integrated Guideline-Based Low Back Pain Management</u></a>	M. Correale, S. Mian-Valiante, S. Groe, K. Lane, R. Rampersaud	IFIC North American Conference on Integrated Care 2021*
<a href="#"><u>One Year Later: Our Members Stories</u></a>	M. Correale	Physiotherapy Today
<a href="#"><u>Ontario Inter-professional Spine Assessment and Education Clinics (ISAEC): Patient, Provider and System Impact of an Integrated Model of Care for the Management of Low Back Pain (LBP)</u></a>	R. Rampersaud	IFIC North American Conference on Integrated Care 2021*
<a href="#"><u>Patient Acceptance and Satisfaction with Virtual Care in Ontario During and After COVID-19 Lockdown Restrictions</u></a>	M. Correale, L. Soever, M. Rachevitz, A. Bigness, S. Robertson, R. Wilson, W. Wong, J. Nugent, S. Frantzeskos, M. Duffy, R. Rampersaud	Canadian Spine Society 2021 Virtual Conference February 2 <sup>nd</sup> , 9 <sup>th</sup> , 16 <sup>th</sup> & 23 <sup>rd</sup> , 2021
<a href="#"><u>Perceptions, Facilitators and Barriers of Physical Activity in Axial Spondyloarthritis: Results from a Qualitative Study</u></a>	L. Passalent, A. Cyr, I Jurisica, S. Mathur, N. Haroon, RD. Inman	Canadian Rheumatology Association
<a href="#"><u>Preparatory Videos for Virtual Care Orthopaedic Consultation: A Key to Success</u></a>	M. Alvares, M. Correale, A. Courchene, L. Soever, C. Hawke, T. Gotal, E. May	<b>Poster Presentation</b> (available on request) Ontario Physiotherapy Association (OPA) InterACTION Conference April 17, 2021
<a href="#"><u>Rapid Access to Interventional Pain Management for Lumbar Nerve Root Pain Through Collaborative Interprofessional Provider Networks</u></a>	M. Correale, T. Di Renna, K. Sundararajan, R. Bosma, G. Faclier, R. Rampersaud	World Physiotherapy Congress April 9 <sup>th</sup> , 10 <sup>th</sup> , and 11 <sup>th</sup> 2021
<a href="#"><u>Rapid Access to Interventional Pain Management for Lumbar Nerve Root Pain through Collaborative Interprofessional Provider Networks</u></a>	M. Correale, K. Sundararajan, R. Bosma, G. Faclier, T. Di Renna, R. Rampersaud	Canadian Spine Society Conference 2020
<b>Role of Physiotherapy in OQ and Rehabilitation following TKA</b>	M. Alvares	<b>Oral Presentation</b> (available on request) ISURA 2021 Conference Canadian Anesthesiologists Society June 4-7, 2021



<p><a href="#"><u>The Development of a Low Back Rapid Access Clinic: Virtual Assessment and Education Toolkit</u></a></p>	<p>M. Correale, S. Mian-Valiante, S. Groe, K. Lane, R. Rampersaud</p>	<p>World Physiotherapy Congress April 9<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup> 2021</p>
<p><a href="#"><u>The Role of E-health Technology in Physical Activity for Patients with Axial Spondyloarthritis: Results from a Qualitative Study</u></a></p>	<p>L. Passalent, A. Cyr, I. Jurisica, S. Mathur, N. Haroon, RD. Inman</p>	<p>Canadian Rheumatology Association</p>
<p><a href="#"><u>Utilization of Virtual Technology and an Advanced Practice Physiotherapist (APP) to Improve Access to Foot and Ankle (FA) Care during COVID-19: A Retrospective Review</u></a></p>	<p>T. Gotal, J. Lau</p>	<p>2021 COA/CORS/CORA Virtual Annual Meeting June 15-19, 2021</p>
<p><a href="#"><u>Utilizing a Novel Model of Care to Improve Wait-times and Diagnosis of Patients with Upper-Extremity Pain</u></a></p>	<p>C. Hawke, L. Soever, T. Leroux, C. Veillette</p>	<p>IFIC North American Conference on Integrated Care 2021*</p>
<p><b>Virtual Assessment and Management of Low Back-Related Symptoms: A Workshop for Novice and Experienced Clinicians</b></p>	<p>M. Correale R. Rampersaud</p>	<p><b>2-hour Virtual Workshop</b> (available on request) Convergence Health Care and Education Conference February 9<sup>th</sup> and 10<sup>th</sup>, 2021</p>

\*Acceptance deferred due to cancellation of 2020 IFIC North American Conference, in response to COVID-19 pandemic

# A Novel Advanced Practice Physiotherapist (APP) Led Clinic, Improved Access to Care for Patients with Foot and Ankle (FA) Pathology

**Tamara Gotal** PT, MPT, ACPAC, Advanced Practice Provider (Physiotherapy Practitioner), Schroeder Arthritis Institute, Toronto Western Hospital, University Health Network

**Johnny Lau** MD, MSc, FRCSC, Orthopaedic Surgeon - Foot & Ankle Surgery, Schroeder Arthritis Institute, Toronto Western Hospital, University Health Network, Assistant Professor in the Division of Orthopedic Surgery, University of Toronto, Program Director, University of Toronto Foot and Ankle Fellowship, Clinical Fellowship Director, Orthopaedic Surgery, University of Toronto

## Purpose/Rationale

**Purpose:** to evaluate access to care for patients with FA pathology, utilizing an APP- led orthopaedic clinic.

Access to orthopaedic surgeons specializing in FA care has historically been limited, leading to lengthy wait times. In 2019, in Ontario patients with FA pathology were waiting on average, 127 days for initial orthopedic consultation<sup>1</sup>. At our institution, wait time was in excess of 365 days. A Foot and Ankle Rapid Access Clinic (FARAC) was therefore created within the Schroeder Arthritis Institute, Division of Orthopaedics, to improve timely access to specialty care by decreasing wait times for initial consultation; and providing patients with comprehensive assessment and collaborative recommendations for both surgical and conservative management.

## Objectives

The objectives of this study were to:

- 1) Describe the centralized assessment model of the FARAC.
- 2) Measure wait time from date of receipt of referral to date of initial assessment; and report wait time over a two-year period.

## Relevance

Increasingly over the last decade, physiotherapists with advanced training in musculoskeletal diagnosis and care have been one of the preferred professions for advanced practice models. In Ontario, Rapid Access clinics (RAC's) utilizing APP's have been implemented on a broad scale for hip/knee, and spine/low back pain. Due to the success of these clinics in improving patient care, an opportunity was identified to utilize an APP RAC model of Care with FA competency. To our knowledge, this is the first such FA clinic established in Ontario.

## Methods and Materials

A descriptive case study approach will be used to describe the competency-based training and role of the APP in the FARAC. Descriptive quantitative statistics will be utilized for wait times. Wait time data for referrals received from January 2019 to December 2020 were extracted retrospectively. Wait time data is routinely collected as part of an ongoing quality improvement process.

## Findings/Results

The FARAC is led by an Advanced Clinician Practitioner in Arthritis Care (ACPAC) Program-trained physiotherapist. All referrals are received by the APP and prioritized based on diagnosis. Patients are assessed either independently by the APP or collaboratively with the surgeon. The APP completes a comprehensive subjective and physical examination, including ordering additional diagnostic tests as indicated. Subsequently, patients are triaged for surgical or conservative management.

In the two year time period, 812 referrals were received. Of the 812, 493 meet criteria for APP assessment. Overall average wait time across the two year period was 103 days. As processes were refined, average wait time improved from an average of 216 days in 2019, to an average of 51 days in 2020.

## Conclusion

This model has demonstrated that a physiotherapist with additional competency has the potential to significantly improve access to care for patients with FA pathology. This is supported by our data that shows a decrease in wait time from date of referral to consultation by 76%.

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<sup>1</sup>Time to patient's first orthopaedic surgical appointment. (2019). *Health Quality Ontario*. Retrieved from <https://www.hqontario.ca/System-Performance/Wait-Times-for-Surgeries-and-Procedures/Wait-Times-for-Orthopedic-Surgeries-including-Hip-Replacement-and-Knee-Replacement/Time-to-Patients-First-Orthopedic-Surgical-Appointment>

# Advancing Early Identification of Axial Spondyloarthritis: An Interobserver Comparison of Extended Role Practitioners and Rheumatologists

Ms. Laura Passalent, Mr. Christopher Hawke, Ms. Daeria O Lawson, Dr. Ahmed Omar, Dr. Khalid A Alnaqbi, Dr. Dinny Wallis, Hillary Dr. Steinhart, Dr. Mark Silverberg, Dr. Stephen Wolman, Dr. Larissa Derzko-Dzulynsky, Dr. Nigil Haroon, Dr. Robert D Inman

*From the Spondylitis Program, Toronto Western Hospital; and Faculty of Medicine, University of Toronto, Krembil Research Institute, Toronto, Ontario, Canada.*

*L. Passalent, MHS, Spondylitis Program, Toronto Western Hospital, Faculty of Medicine, University of Toronto, Krembil Research Institute; C. Hawke, BSc Hons (PT), Spondylitis Program, Toronto Western Hospital, Faculty of Medicine, University of Toronto; D.O. Lawson, HBSc, Spondylitis Program, Toronto Western Hospital; A. Omar, MD, Spondylitis Program, Toronto Western Hospital, Faculty of Medicine, University of Toronto; K.A. Alnaqbi, MD, Rheumatology Division, Al Ain Hospital, United Arab Emirates; D. Wallis, MD, University Hospital Southampton, Southampton, UK; H. Steinhart, MD, Faculty of Medicine, University of Toronto, Mount Sinai Hospital, Toronto; M. Silverberg, MD, Faculty of Medicine, University of Toronto, Mount Sinai Hospital, Toronto; S. Wolman, MD, Faculty of Medicine, University of Toronto, Toronto General Hospital, Toronto; L. Derzko-Dzulynsky, MD, Faculty of Medicine, University of Toronto, St. Michael's Hospital, Toronto; N. Haroon, MD, Spondylitis Program, Toronto Western Hospital, Faculty of Medicine, University of Toronto, Krembil Research Institute; R.D. Inman, MD, Spondylitis Program, Toronto Western Hospital, Faculty of Medicine, University of Toronto, Krembil Research Institute.*

## Objective

To compare clinical impression and confidence of extended role practitioners (ERP) with those of rheumatologists experienced in axial spondyloarthritis (axSpA) according to (1) evaluation of patients with chronic back pain assessed for axSpA; and (2) magnetic resonance imaging (MRI) recommendation for further investigation of these patients.

## Methods

Patients with  $\geq 3$  months of back pain and age of onset  $< 45$  years were referred for axSpA evaluation. An ERP assessed consecutive patients and recorded standardized clinical information in written form. Three rheumatologists subsequently evaluated each patient based on the recorded information. Patients were classified as having axSpA or mechanical back pain based on clinical and investigative findings. Level of confidence was noted for classification and MRI indication. Agreement between assessors was evaluated using percentage agreement and  $\kappa$  coefficient.

## Results

Fifty-seven patients were assessed. Interobserver agreement of clinical impression for all raters was moderate ( $\kappa = 0.52$ ). Agreement of clinical impression between ERP and rheumatologists ranged between 71.2% ( $\kappa = 0.41$ ) and 79.7% ( $\kappa = 0.57$ ). Agreement of clinical impression among rheumatologists ranged from 74.1% ( $\kappa = 0.49$ ) to 79.7% ( $\kappa = 0.58$ ). All rater agreement for MRI indication was fair ( $\kappa = 0.37$ ). ERP agreement with rheumatologist for MRI recommendation ranged from 64.2% ( $\kappa = 0.32$ ) to 75% ( $\kappa = 0.48$ ). Agreement for MRI indication among rheumatologists ranged from 62.9% ( $\kappa = 0.27$ ) to 74% ( $\kappa = 0.47$ ). Confidence in clinical impression was similar among all practitioners.

## Conclusion

ERP with specialty training in inflammatory arthritis demonstrate clinical impressions comparable with those of rheumatologists in the assessment of axSpA. Incorporation of such roles into existing models of care may assist in early detection of axSpA.

# Bridging the Gap between Symptom Onset and Diagnosis in Axial Spondyloarthritis: An Integrated and Stratified Model for Early Detection

Laura Passalent<sup>1,2,3</sup>, Kala Sundararajan<sup>4</sup>, Anthony V. Perruccio<sup>5</sup>, Christopher Hawke<sup>6,7</sup>, Nigil Haroon<sup>8,9,10</sup>, Robert D Inman<sup>3,11,12</sup> and Y. Raja Rampersaud<sup>5,6,13</sup>

*Rheumatology, Toronto Western Hospital, Toronto, ON, Canada, Toronto, ON, Canada, <sup>2</sup>Department of Physical Therapy, University of Toronto, Toronto, ON, Canada, Toronto, ON, Canada, <sup>3</sup>Arthritis Program, Krembil Research Institute, Toronto, ON, Canada, <sup>4</sup>Orthopaedic Research Department, Toronto Western Hospital, Toronto, ON, Canada, <sup>5</sup>Arthritis Program, Krembil Research Institute, University Health Network, Toronto, ON, Canada, <sup>6</sup>Orthopaedics, Toronto Western Hospital, Toronto, ON, Canada, <sup>7</sup>Department of Physical Therapy, University of Toronto, Toronto, ON, Canada, <sup>8</sup>Arthritis Program, Krembil Research Institute, Toronto, ON, Canada, <sup>9</sup>Rheumatology, Toronto Western Hospital, Toronto, ON, Canada, <sup>10</sup>Medicine, Rheumatology, University of Toronto, Toronto, ON, Canada, <sup>11</sup>Department of Medicine, University of Toronto, Toronto, ON, Canada, <sup>12</sup>Toronto Western Hospital, Toronto, ON, Canada, <sup>13</sup>University of Toronto, Toronto, ON, Canada*

## Introduction

Axial spondyloarthritis (axSpA) is a systemic inflammatory arthropathy affecting the spine and sacroiliac joints and can also affect the peripheral joints and other body systems. Inflammatory back pain, (IBP) associated with axSpA, can be difficult to differentiate from mechanical back pain (MBP) amongst primary care providers. This leads to significant delay in diagnosis, chronic pain, potentially irreversible structural damage, and reduced quality of life. Aim: to evaluate an inter-professional model of care (MOC) to screen for axSpA. Objectives: 1) measure time to rheumatology diagnosis; 2) measure referral wait times from primary care to rheumatology; 3) determine the incremental precision and accuracy of the screening process from primary to rheumatology care, and 4) determine patient satisfaction with the MOC.

## Methods

Adults with back pain attending a dedicated community back program ([www.isaec.org](http://www.isaec.org)) underwent primary screening for IBP. Patients meeting IBP criteria were referred for a secondary screen by a physiotherapist with advanced rheumatology training. Diagnostic delay, referral wait times were calculated. Precision and accuracy of each screen were measured against the clinical judgement of a rheumatologist with axSpA expertise. Patient satisfaction with the MOC was evaluated.

## Results

In total, 410 patients underwent primary and secondary screening over a 3-year study period.

Mean age was 36.9 years ( $\pm 9.8$ ); 55% were female; average back pain duration was 7 years ( $\pm 7.2$ ). HLA-B27 was present in 14.4% of patients. Average time from back pain onset to diagnosis for patients with medium or high risk of axSpA (as determined by rheumatologist) was 6.0 years ( $\pm 6.3$ ). Median wait time from primary to secondary screen was 22 days. AxSpA risk assignment by rheumatologist was 63.6% (MBP or low risk axSpA) and 36.4% (medium or high risk axSpA), with 18.0% of all patients receiving a final diagnosis of axSpA. HLA-B27 performed poorly as an independent screen (sensitivity=28%). The best combination of sensitivity (68%), specificity (90%), positive predictive value (80%) and negative predictive value (84%) was evident with the secondary screen. A large proportion of patients were satisfied with the model of care (93%).

## Conclusions

The inclusion of a secondary screening process utilizing a stratified interprofessional model can shorten time to diagnosis, with high precision and accuracy in patients with axSpA. This unique MOC demonstrates high patient satisfaction, improved access to care and may contribute to increased function and quality of life in this patient population.

## Implications for Applicability, Transferability, Sustainability and Limitations

The above model of stratified and integrated screening leverages existing human health resources through the optimization of professional scopes of practice. Such integrated models have the potential to improve efficiency and access to appropriate care for patients with a variety of musculoskeletal conditions.



# Bringing Integrated Care Home: Piloting a Patient Care Navigation Role for Total Joint Replacement Patients

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## Introduction

Over 137,000 patients in Canada receive life-changing hip and knee replacement surgeries at an annual cost of \$1.4B. Due to the significant personal and system impact, ensuring patients achieve the best outcomes and experience from their surgery is critical. Patients have expressed they want connected care, delivered at the right time and place. Early assessments by University Health Network's Schroeder Arthritis Institute identified that key care and communication gaps in transitions across the total joint replacement (TJR) journey lend themselves to implementing a patient care navigator (PCN) role to meet patient expectations.

## Objectives and Methodology

The aim was to improve the quality and value of perioperative care for TJR patients within a high volume orthopaedic program, through the introduction of a PCN role. This quality improvement initiative used an iterative plan-study-do-act approach. The PCN supported patients who underwent joint replacement surgery by one of two orthopedic surgeons starting in July 2020. This involved a PCN call to patients 48 hours pre- and post-surgery to review surgery/recovery planning, provide education, and address patient questions. Data were collected between July 2020-January 2021, including qualitative interviews, retrospective chart reviews, and patient satisfaction surveys. REB exemption was obtained.

## Results and Key Findings

Of the 249 patients recruited, 162 patients completed both pre-op/post-op PCN calls. Patients reported high satisfaction (99.5% (n= 162)). Qualitative interview evaluations revealed that patients felt the

PCN helped to reduce their anxiety, reassured them, and better connected them to their care team. Patients also reported that the education/information across their patient journey was overwhelming. About 88 patients were found to have risks to their recovery: educational material misplaced/not provided (58%), misunderstood surgery instructions (32%), no co-pilot arranged (6%), lack of equipment (6%), communication barriers (5%) and other (4%). The PCN worked with patient to address these issues prior to surgery. During post-operative calls, patients concerns were: pain (20%), gastrointestinal symptoms (17%), swelling/numbness (13%), medication (7%), fever (4.2%), surgical site (6%) and other (3%). These were largely managed by the PCN (64%), with some requiring an interdisciplinary approach for resolution [surgeon (17%), physiotherapist (12%), family physician (4%) and other (3%)].

## Conclusion

The findings highlight the benefits of a PCN in improving care quality of patients undergoing TJR and enabling their recovery at home. This is especially important as hospital stays for TJR becoming exceedingly shorter. PCN roles are an ideal opportunity to integrating hospital care with a patient's recovery at home.

## Implications for Transferability and Sustainability

The patient value for a PCN in our TJR program suggests an important role in enabling integrated care models. Sustainable system level PCN care models that support patients with transitions to the home and community are needed. Further work will be explored to understand the equity aspects of the model.

# Exploration of a Patient Care Navigator Role to Integrate Care for Patients Receiving Total Joint Replacement Surgery

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## Introduction

Patients and their families have expressed the need for their care journeys to be seamless, high quality and safe. The Schroeder Arthritis Institute's Orthopaedic Program at University Health Network (UHN) has developed integrated pathways to support all patients receiving orthopaedic care to achieve best possible outcomes from surgery. With the goal of creating a meaningful integrated pathway, the Program aimed to understand perspectives of all key stakeholders including patients, providers and community partners. Opportunities to improve care gaps and care transitions were identified to inform the development of a Patient Care Navigator (PCN) role for hip and knee arthroplasty patients.

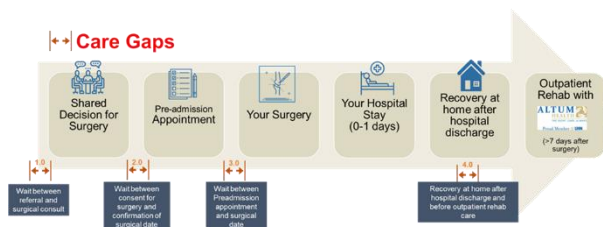
## Aims, Objectives, Theory and Methodology

A clinical mapping exercise was completed to understand transitions across UHN's hip and knee joint replacement surgical pathway. Four sessions were held with 20 participants across diverse care roles: patients, surgeons, surgeon office administration, pre-admission team, perioperative team, inpatient nursing, inpatient and community outpatient rehab, and hospital administration. Qualitative and quantitative data was reviewed by participants across 6 care transitions: referral, consult, pre-surgery, surgery, inpatient stay, and post-acute rehab. Feedback from all participants was

iteratively obtained, collated and evaluated to map the clinical pathway, particularly focused on areas of burden, inconsistent processes, and care transition opportunities.

## Highlights, Results, Key Findings

Participants identified 3 key principles for effective integrated care: *supported and coordinated transitions, central point of contact, and 24/7 access to care for patients and their families*. Evaluation of these emerging themes from the pathway mapping exercise identified four critical transition points that patients and families perceived as stressors causing high anxiety, confusion, and miscommunications. These are: 1) time between referral to surgical consult, 2) time between 'consent for surgery' to confirmation of a surgery appointment, 3) time between preadmission appointment and day of surgery, and 4) time between hospital discharge to first outpatient rehab appointment. The latter two were identified as immediate priorities for integrating a PCN role (48 hours pre- and post- surgery) to enhance communications, education and supports for patients and their families to optimize their recovery at home, optimize their care outcomes, and prevent unnecessary ED visits.



## Conclusion

Our efforts highlight how process mapping is an effective tool in co-designing a PCN role with patients and providers to deliver high value care. This work highlights the importance of integrating the coordination and connection of care across an orthopaedic surgical pathway that extends to supporting patient recovery at home.

## Implications for Applicability, Transferability, Sustainability and Limitations

Ontario's new integrated funding models for orthopaedic care present a key opportunity to redesign care with re-investment into patient care navigation roles that support patients across the care continuum. These models can achieve high value seamless care by wrapping services that extend beyond hospital walls around patient and their families.

# Finding Where Technology Fits: An Integrated Care Program Development Example

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## Introduction

As digitally-enabled medicine becomes synonymous with mainstream practice, carefully selecting tools that integrate into existing workflows and improve patient and provider experience are needed in order for the impact of digital solutions to be fully realized. In 2019, the Schroeder Arthritis Institute at the University Health Network created an integrated care program for musculoskeletal (MSK) patients to promote integration in health care delivery between hospitals and community providers, drive high-quality efficient care, and improve patient outcomes and experience. Collaborative consensus building was used to identify where digital solutions could enable integrated patient-centered pathways.

## Aims, Objectives, Theory or Methods

The first phase of program development focused on in-depth current and future state analysis of a specific service within the program (Hip & Knee Surgery). Four exploratory in-person sessions were conducted to identify gaps and opportunities where digital solutions could enable integrated patient-centered care. The sessions were hosted with 20 participants across 14 staff unique roles including physicians, allied health clinicians, administrative staff, and a patient partner to understand the care pathway from referral to post-acute rehabilitation. Once the current workflow was understood, the group identified areas for improvement. The patient's lived experience was central to determining these opportunities.

## Highlights or Results or Key Findings

Four opportunities identified for improvement could be addressed in part through new digital tools and centralized systems.

1. *Patient risk stratification tools* to alert the care team of high-risk patients based on clinical and social risk factors prior to surgery could reduce unexpected downstream complications.

2. *Patient communication tools* to provide direct access to the care team could address patient anxiety when awaiting information about their care plan.
3. *Greater system integration* of existing booking and care processes to address administrative users' fatigue with patient registration across multiple domains.
4. *Central access and visibility* of real-time patient information across the care team and with the patient could be strengthened. The main information gaps occurred when patients transitioned from primary care to hospital, hospital to rehab provider or when medically managed.

Access to the right information at the right time emerged as a key tenant for supportive technology in integrated care.

## Conclusion

By first understanding existing gaps in care, digital systems can be strategically deployed to strengthen relationships between patients and providers. Future work will include identifying key differences for services beyond Hip & Knee surgery to ensure selected solutions are applicable in those contexts and expanding integrated models enabled by technology.

## Implications for Applicability, Transferability, Sustainability and Limitations

Funding for procuring digital solutions is often limited so new models for cost recovery should be explored. New integrated funding models for Total Joint Replacement surgery in the province presents an opportunity to invest earnings from efficiencies gained into resources and technology.

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# Implementing a Centralized Assessment Model for Foot and Ankle Patients: An Exploratory Analysis

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## Introduction

Foot and Ankle (FA) is an over-exhausted orthopedic service. In 2019 alone, over 1000 FA patients in Ontario were waiting for orthopedic consult with wait times around 127 days. Established centralized assessment models integrating advanced practice providers have emerged within UHN's orthopedic program to improve access to the right care for patients with complex musculoskeletal conditions. Our aim was to explore whether the FA patient population presenting to UHN was suited to a centralized assessment model to improve access to care and the integration of care delivered across the care continuum.

## Objectives and Methods

Qualitative and quantitative data on FA patients from 2018-2019 seen within UHN's orthopedic program was obtained. Gender, age, and geographic location of patients was reviewed. Complexity was determined by need for surgery, surgery procedure type, and ASA level. Acute length of stay and weight bearing status were also captured. The care pathway was tracked from initial consultation to post-operative follow up. Process maps were developed to compare current and ideal states to identify current gaps and requirements of the FA population.

## Results

UHN's FA surgical population is 47% female and 53% male averaging 51.4 years of age, largely residing in the Greater Toronto Area region (73%). At least 39% (121) were deemed complex. The average acute length of stay was 8.3 days with 31% who were discharged needing supports: 21% to homecare, 6% to inpatient rehabilitation and 4% to convalescent care.

Key care gaps and challenges were identified:

- No centralized referral process resulting in significant delays in access to care with limited supports and guidance for patient while waiting for surgical consult.
- No follow-up on compliance or outcomes on 65% patients who were discharged home with outpatient rehabilitation recommendations.
- Lack of standard patient education, particularly around post-surgical recovery expectations, including prolonged periods of non-weight bearing resulting in surgical delays and extended acute hospital stay.
- Review of UHN ED visits identified that 7.5% returned to ED within 30 days of discharge with 4% readmitted.

## Conclusion

The findings support expansion of a centralized assessment model to improve care for complex FA population by streamlining referrals for timely triage of surgical cases, supporting non-conservative management of non-surgical candidates, enhancing patient education for post-acute recovery, and assisting with effective care transitions for complex care needs of these patients.

## Implications for Applicability

A centralized assessment model with patient collaboration and co-design has the potential to decrease wait times for consult, support early identification of complex issues and comorbidities, and enhance delivery of a standardized care pathway to improve the care trajectory of these patients including reducing ED visits and readmissions.



# Learnings from the Field – An Integrated Model of Care for Hip and Knee Bundle Patients at UHN

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## Purpose/Rationale

The Ontario Ministry of Health announced in 2018 new Integrated Funding Models for Hip and Knee replacement surgery, providing a single payment to cover the spectrum of care, with the aim of promoting greater integration in health care delivery, driving high-quality efficient care, and improving patient outcomes and experience. To this end, the Division of Orthopaedics within the Schroeder Arthritis Institute at University Health Network (UHN) established an integrated care pathway that started with an Advanced Physiotherapy Practitioner (APP) led centralized assessment in collaboration with an orthopaedic surgeon. The model was based on best practice guidelines, was focused on optimizing patient transitions home after total joint replacement (TJR), and was enabled by large-scale change management and value-based partnerships around patient engagement and collaboration.

## Objective

Our objective was to utilize our Advanced Physiotherapy Practitioners (APPs) to assist in the development of an integrated model and establishing new system partnerships to optimize the patient's hospital experience, wrap services around the patient and their families to support their transition home, and identify opportunities for efficiencies in care delivery that align with best practice and support high value care

## Relevance

APP roles have been implemented across the province of Ontario as part of the Rapid Access Clinics (RAC) for hip and knee osteoarthritis patients. These roles are critical in supporting timely access to care, providing comprehensive specialty musculoskeletal assessment and treatment planning for patients in collaboration with orthopaedic surgeons, and reducing wait times for the system.

RACs are only the first step in delivering integrated care to this patient population. Connecting pre-operative and post-acute care in the community is crucial in providing a seamless and truly integrated surgical pathway for patients in order to optimize their experience and clinical outcomes. The APP role is unique in driving the development of an integrated pathway in that it brings both surgical and rehabilitation perspectives and expertise to an acute setting.

## Description

Our new integrated pathway began in April 2019 with 1287 TJR patients. The APP RAC consult was identified as a

critical juncture to optimize the patient's experience and transition home, by streamlining patient education and initiating early acute mobilization and warm handoffs to post-acute rehabilitation partner providers. Furthermore, APPs played a key role in building relationships across the patient care continuum, including pre-operative hospital teams, post-operative teams, and outpatient rehabilitation partners, in addition to gaining hospital operations' leadership support, to establish changes in model of care towards an integrated pathway for patients. Additionally, patient input informed the final integrated care pathway, which included revised patient education material and videos, in addition to a focus on earlier patient engagement in their treatment and care recovery planning. Safe, seamless transitions home was identified as a key goal across all integrated care providers and patients. Finally, tools were developed to support seamless transitions and warm handoffs to post-acute rehabilitation providers, such as our Bundled Care Toolkit, which were adopted by provincial agencies and other hospitals, as we collectively looked to standardize care and supports for connecting care across our Bundled Care Provider network.

Consistent with guideline based care, implementation over one year has shown a reduction in hospital stay and inpatient rehab, with >80% of patients going home with outpatient rehab. Patients have reported high satisfaction (96%) upon discharge. This work was supported by the pilot of a patient care navigator and 24/7 call line. This identified that earlier discharge home, does require sustained investment in navigation and technology supports for patients at home, to help alleviate their anxieties during recovery related to post-surgical redness, swelling, and pain around the surgical site and ultimately prevent patients from going to EDs as a result of these concerns.

## Conclusions

An integrated pathway for hip and knee bundle patients, achieved our aim of improving patient and caregiver experience. Furthermore, integrated care models can sustain strong clinical outcomes and efficiency in care delivery; however, efficiency gained from the pathway need to be invested in new supports along the patient's journey home. Incorporating patient feedback is critical in identifying current gaps and opportunities for enhancing patient transitions beyond hospital walls. Furthermore, it is critical that these new models of care include investments that support the patient through technology and care navigation roles, to support earlier discharge home, reduce unnecessary ED visits, and to enhance patient experience with their recovery at home.

# Learnings from the Field – An Integrated Model of Care for Hip and Knee Bundle Patients at UHN

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## Introduction

The Ontario Ministry of Health announced new Integrated Funding Models for Hip and Knee replacement surgery in 2018, providing a single payment covering the spectrum of care required for an individual health issue. Aim was to promote greater integration in health care delivery, drive high-quality efficient care, and improve patient outcomes and experience.

The Schroeder Arthritis Institute at University Health Network (UHN) developed an integrated care pathway that optimized patient transitions home after total joint replacement (TJR) based on best practice guidelines and enabled by large-scale change management, technology and value-based partnerships with a focus on patient engagement and collaboration.

## Aims and Objectives

Value-based bundle funding models require innovation in care delivery to provide quality, evidence-based care across the care episode, improving efficiencies while maintaining strong clinical outcomes and patient satisfaction. Our existing pathways were challenged with inconsistent application of evidence-based guidelines and lack of patient representation in co-design and outcome measurement.

Our objective was to develop an integrated model at UHN utilizing existing partnerships to optimize the patient and caregiver experience, coordinate care in collaboration with the patient and their families to empower them and support transition home, identifying opportunities for efficiencies in care delivery that aligned with best practice.

## Highlights and Key Findings

The new integrated pathway began in April 2019 with 1287 TJR patients. Updated surgical guides, videos and resources assisted in patient empowerment and preparedness, early acute mobilization and warm

handoffs to post-acute rehabilitation partner providers contributed to improved overall experience. Transitions home were supported by a 24/7 access-to-care line and a Clinical Care Coordinator to address complex patients. Key efficiency metrics included reduced acute length of stay (from 2.1 to 1.6 days for hips and 2.4 to 1.7 for knees) and increased percentage of patients discharged home (up from 88% combined average in 18/19 to 95% for knees and 96% for hips in 19/20). Most significant was the reduction in inpatient rehabilitation referral, down from 15-17% in 18/19 to 1-3% in 19/20. The new pathway achieved a patient reported satisfaction rate of 96% upon discharge. Onboarding of Patient Partners was critical in the evolution of our integrated pathway and continues to inform ongoing changes.



## Conclusions

An integrated pathway for hip and knee bundle patients achieved our aim of improving patient and caregiver experience. Patient feedback was critical in identifying current gaps and opportunities for enhancing integration with technology and care navigation roles to support recovery at home.

Implications for Applicability, Transferability, Sustainability and Limitations

Integrated care models have proven to be sustainable and patient-centric, ensuring strong clinical outcomes and efficiency in care delivery. In order to sustain these models, it is critical that efficiencies are re-invested to support recovery at home through care navigation role and technology.

# Low Back RAC - ISAEC Model of Care

## A look at the way COVID-19 is changing the delivery of care for low back pain patients across the province of Ontario

By **Marcia Correale**, Clinical Practice Lead for Provincial ISAEC Operations Team and Practice Lead Toronto Central LHIN

Submitted April 8, 2020

I would like to start by expressing my sincere gratitude to all the front line workers for their dedication to patient care. Thank you for sacrificing your time, energy and safety to ensure Canadians get the care they require during these unprecedented times.

As physiotherapists, each of us are committed to delivering patient care and we are equipped with the knowledge, skills and abilities to adapt to a changing health care environment. The COVID-19 global pandemic has significantly disrupted all outpatient services and reduced available resources for patients with low back pain. In response to this situation, our team has worked diligently to modify and adjust the way we deliver care in order to better service our patient population.

### **The possible collateral damage from this global pandemic**

Low back pain (LBP) is a significant burden to the health care system. Patients with LBP continue to need care, however, conventional care has been restricted due to the COVID-19 global pandemic. The ISAEC model of care was implemented across the entire province of Ontario in 2018/2019 to improve patient and provider outcomes and satisfaction with the delivery of care for low back related symptoms.

85% of patients referred to the ISAEC program do not require imaging; these individuals will have a normal neurological exam and benefit from a personalized home exercise program with education, guidance and strategies for self-management. Based on this provincial data, this is a population that can be effectively assessed and managed through virtual care.

As physiotherapists leading these models of care, we are well-positioned to drive innovation in virtual care and support an already overburdened healthcare system. Virtual care can reduce unnecessary visits to the family physician and/or ER for poorly managed back pain. Without virtual care, patients will not be able to manage new or worsening of previously manageable or unmanageable pain, which could cause increased opioid use, functional limitations

and debilitation, deconditioning, and increased risk of developing chronic pain pathways and behaviours.

### **The appropriateness of virtual care within the ISAEC framework for Ontarians**

ISAEC is a model of care shown to improve function and decrease chronicity based on a 6-year pilot carried out in urban, suburban, and rural sites. With an established process to escalate care to a surgeon sponsor or specialist for urgent clinical presentations, the model utilizes specially trained Advanced Practice Clinicians in the community for the delivery of care and has an existing technology infrastructure for documentation.

ISAEC clinicians were familiar with utilizing the ZOOM platform to deliver non-patient care activities such as case conferences and virtual meetings prior to COVID-19. In addition, ISAEC hospital based clinicians were using the OTN platform for appropriate virtual assessments prior to COVID-19 including a long-established telehealth site in Marathon, ON.

There are over 160 ISAEC Advanced Practice Clinicians across the province of Ontario and half of them are registered physiotherapists with the necessary skills, competencies and knowledge to deliver virtual care.

### **Concerns raised by ISAEC clinicians regarding virtual care for patients**

There have been some limitations to providing virtual care for the ISAEC clinicians. These include:

- Vetting available secure platforms for the delivery of care that meet regulatory requirements
- Mapping out process for escalation when required
- Some areas may have a lack of administrative staff to receive referrals/communication due to redeployment or temporary layoffs
- Difficulties gaining proper signed consent (lack of printer, scanner, etc.)

- Limitations of performing a virtual clinical exam (detailed neuro, DTR, etc.)
- Some patients may not be able to participate in virtual assessment (age of patient, computer requirements, quality of internet)
- Concerns for those qualifying for CERB

**How limits have turned into limitless opportunities**

In consultation with the College of Physiotherapists of Ontario (CPO) and OPA, we have developed a framework for virtual assessments that can be used by our Advanced Practice Physiotherapists across the province. In collaboration with the provincial surgeon team, we have developed an appropriate standardized objective virtual assessment for patients with low back related symptoms.

If appropriate, and if both provider and patient agree, follow up ISAEC patients have received telephone consultations with appropriate exercise prescription and recommendations for continued care. We have developed communications with online resources for ISAEC primary care providers to direct patients to appropriate resources while they await an ISAEC virtual assessment. We have also initiated weekly meetings with the practice lead group and provincial clinical lead to identify areas of concern and explore opportunities for continued improvement of the program across the province during COVID-19. We continue with monthly clinical case rounds with the provincial advanced practice clinicians, practice lead group and the provincial clinical lead.

**The following ISAEC LB-RAC Practice Leads are Physiotherapists:**

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**Provider Resources for Virtual Care Delivery**




[www.lowbackrac.ca/for-providers](http://www.lowbackrac.ca/for-providers)





# Multi-stakeholder Engagement and Development of a Virtual Care Toolkit for Integrated Guideline-Based Low Back Pain Management

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## Acknowledgments

Network of Clinical Practice Leads across the 16 geographical regions of Ontario

Network of Stakeholders who provided feedback, critique and endorsement of Toolkit Content

## Introduction

The abrupt COVID-19 related healthcare closures across Ontario, Canada resulted in a rapidly growing backlog of patients referred to the Provincial Rapid Access Clinics (RACs) Program, designed to manage patients suffering from unmanageable low back pain (LBP). Left untreated or poorly treated, LBP can lead to a significant burden on patients and the health system. Expedient implementation of virtual care (VC) became a necessity, however, frontline clinicians identified a lack of confidence and experience with LBP-VC. To ensure continuity in patient-centred care, a Toolkit was developed to enable providers to deliver a standardized guideline-based integrated LBP pathway through VC.

## Aims, Objectives, Theories or Methods

A co-ordinated in-depth multi-stakeholder engagement process was utilized to address clinicians' concerns to promote confident adoption of VC. A system-level rapid response approach led through a centralized clinical and digital provincial infrastructure was used to develop the LBP-VC Toolkit. Toolkit structure, content and refinement was determined through an iterative mix-methods approach undertaken with provincial LBP stakeholders on how best to implement an established evidence-based shared-care LBP clinical pathway through VC. This approach facilitated acceptable strategies for barrier mitigation and enabler optimization to be rapidly developed on a provincial level with necessary resources and guidelines to deliver a standardized approach to LBP-VC across Ontario.

## Highlight, Results, and Key Findings

Toolkit resources have been adopted across 16 urban and rural regions in Ontario. Engaging front-line clinicians, (including spine surgeons), was critical for active implementation of VC that was safe, effective, and met professional requirements. Important stakeholders for operational oversight included

government, hospital and regional administrators, as well as professional colleges and associations. With collaborative provincial leadership, barriers and enablers to LBP-VC were systematically identified. Extensive multi-stakeholder consultation provided pragmatic information related to privacy; informed consent; professional standards; regional variations, and clinical and patient barriers and enablers. Emergent themes included technology requirements, administrative processes, educational needs, and professional standards. Four hundred and forty LBP-VC patient satisfaction questionnaires were completed (June 2020-May 2021). Based on a 5-point Likert scale, (5 most positive), overall satisfaction and likelihood of participating again was 4.7/5. Qualitative analysis revealed three main themes with VC, importance of human connection; patient-perceived virtual physical examination limitations; and VC efficiencies.

## Conclusions

A Toolkit was developed to enable a standardized province-wide approach to LBP-VC. Multi-stakeholder engagement was utilized to understand barriers, identify enablers, and ultimately promote patient and provider adoption and confidence with LBP-VC. With collaborative leadership, and extensive engagement, clinical resources and guidelines were developed and implemented province-wide with excellent face-validity.

## Transferability

In conclusion, our preliminary experience suggests LBP-VC may be the preferred method for assessment of LBP for patients based on convenience, physical impairments limiting travel, socioeconomic difficulties, and geographical distances. In addition, multi-stakeholder engagement used to develop key steps within the LBP-VC Toolkit have potential applicability to other musculoskeletal populations.

# ONE YEAR LATER: Our Members' Stories

OPA invited members who shared their experiences a year ago in *Physiotherapy Today*, Spring 2020 issue, to reflect on their past year. We asked them what they had learned in the last year, what have been the long-term changes and what they will take into the future. Read their stories.

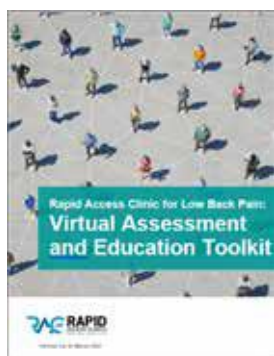
By **Marcia Correale**, Clinical and Education Practice Lead Rapid Access Clinics –Low Back Pain (RAC-LBP), Practice Lead RAC-LBP Schroeder Arthritis Institute, Toronto Western Hospital, Adjunct Lecturer University of Toronto, Department of Physical Therapy.

Submitted April 18, 2021



## ***Difficult roads lead to beautiful destinations.***

The pandemic has given us an opportunity to learn new skills, reflect on our values, cherish our relationships and be grateful for the blessings we receive each day. We have embraced the simplicities in life including daily walks, time with our loved ones and home cooked meals. Who could have predicted that people would be hoarding toilet paper that sweatpants would become part of our work wardrobe, or that physiotherapists who provide “hands on” care would ever have the ability to work from home. As health care professionals, we were deemed “essential workers” and “heroes” for providing front-line care. We were fortunate as our industry did not experience massive layoffs. We were able to continue providing meaningful work that contributed to the well-being of others and improvements to the healthcare system.



When I reflect on the past year, from a professional perspective, I am amazed by the accomplishments and learnings from the Low Back Rapid Access Clinic team as a result of the consequences associated with the pandemic. Last year there was uncertainty and panic related to the abrupt closures of all outpatient services and

available resources for self-management. Through necessity, virtual care became a logical option to manage the growing backlog of low back pain patients awaiting care. However, our network of community providers identified a lack of experience and confidence with virtual care. This preliminary apprehension mixed with an eagerness to adopt virtual care for patients triggered the development of a standardized approach for low back pain virtual assessments. Our network of

Ontario Practice Leads (PLs) and community Advanced Practice Providers (APPs) facilitated by the leadership of the RAC-LBP Ontario Spine Surgeon Lead, Dr. Raja Rampersaud, and myself, developed The Low Back Virtual Assessment and Education Toolkit and successfully implemented virtual care across multi-sites in Ontario that span both urban and rural geographies.

**The Low Back Virtual Assessment and Education Toolkit** contains resources for both patients and providers that enables a standardized approach for low back pain virtual care that mitigates risk, promotes quality care, maximizes privacy and confidentiality, and facilitates timely access to care across Ontario. Emergent themes during Toolkit development included technology needs, administrative processes, educational needs for both patients and providers, and professional requirements. To address the emergent themes and associated barriers, online resources and videos were created and incorporated into the Toolkit. The key steps identified for delivery of virtual care for low back include: Preparing your practice; selecting appropriate patients; preparing your patient; arranging virtual appointments; and conducting virtual appointments including a reliable spine focused neuromuscular examination.

If you are interested in learning more about virtual care for the low back, I would highly encourage you to review the contents of **The Low Back Virtual Assessment and Education Toolkit** and associated resources ([www.lowbackrac.ca](http://www.lowbackrac.ca)).

Rapid implementation of virtual care was initiated in response to the COVID-19 closures. However, given our preliminary findings related to both acceptance and satisfaction we have found this may be the preferred method of assessment for patients based on convenience, physical impairments limiting travel, socioeconomic difficulties, and geographical distances. We have already started to implement a hybrid model of care based on patient preferences and clinical presentation. The explosion of virtual care has been a silver lining associated with the pandemic. It has improved access to care, increased efficiencies with care delivery and contributed to high levels of patient and provider satisfaction.

# Ontario Inter-professional Spine Assessment and Education Clinics (ISAEC): Patient, Provider and System Impact of an Integrated Model of Care for the Management of Low Back Pain (LBP)

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## Introduction

Low back pain (LBP) is a highly prevalent and poorly managed condition. The Inter-professional Spine Assessment and Education Clinics (ISAEC) uses an interprofessional, multidisciplinary, integrated-care model to provide upstream secondary and tertiary standardized clinical evaluation, individualized education and self-management recommendations for LBP patients in remote to metropolitan geographies. The objectives of this study were to determine the impact of the ISAEC evidence, patient and provider informed integrated-care pilot on 1) Patient reported satisfaction and outcome; 2) Primary care provider (PCP) satisfaction and knowledge transfer; 3) Surgical referral appropriateness; and 4) Utilization of spinal imaging from the perspective of the healthcare system.

## Methods

1) Mixed methods study for patient and provider evaluation (patient reported outcomes measures and satisfaction surveys). 2) Institute for Clinical Evaluative Sciences (ICES) administrative data analysis comparing spine imaging test ordering by ISAEC and non-ISAEC physicians and determine the direct cost impact. Pilot program: From Jan 2013 the ISAEC program has seen over 6500 patients and grown from 220 to 540 PCPs (20% of whom are Nurse Practitioners) using the same operational budget. Additionally, there are 14 trained Advanced Practice Clinicians (Chiropractors and Physiotherapists) and 3 Clinical Practice Leads who are supported by 8 specialist champions who are not additionally funded.

## Results

The mean wait time for ISAEC initial assessment was 12 days. Overall patient satisfaction (n=2482) was

99% and 95% felt they understood their condition better. For 811 patients enrolled in a prospective study, a mean reduction in Oswestry Disability score of 10 was observed at 6 months. Enrolled PCPs (n=134 /220) on average showed a two-fold increase in their confidence managing LBP and 97% reported overall satisfaction with the program. Within the ISAEC network of providers, surgical referral appropriateness was 96% (compared to 20-30% prior to ISAEC).

Compared to non-ISAEC PCPs, the overall annual utilization for all LBP-related diagnostic imaging ordered by ISAEC-PCPs fell 28% in year 1 and an additional 5% in year 2 compared to their non-ISAEC peers. This translated to an annual estimated per physician cost avoidance of \$3150 and \$4175 in year 1 and 2 respectively based only on imaging.

## Conclusion

In single-payer public healthcare delivery system, a shared-care, stratified education and self-management model of care for LBP provides significant positive multidimensional impact on patients, providers and the health care system. Overall, the ISAEC integrated care model was able to improve on the quality and appropriateness of care, while reducing cost.

## Implications for Applicability, Transferability, Sustainability and Limitations

The pilot ISAEC integrated care model has been re-named Rapid Access Clinics-Low Back Pain and successfully adopted and implemented as a provincial program in 2019. Current patient and provider experience and satisfaction mirror the aforementioned pilot results. Furthermore, pilots of the program are currently running in two other Canadian provinces.

# Patient Acceptance and Satisfaction with Virtual Care in Ontario During and After COVID-19 Lockdown Restrictions

Ms. Marcia Correale<sup>1,2,3</sup>, Ms. Leslie Soever<sup>2,3</sup>, Ms. Maria Rachevitz<sup>2,4</sup>, Dr. Andrew Bigness<sup>5</sup>, Dr. Sherri Robertson<sup>6</sup>, Ms. Renee Wilson<sup>7</sup>, Mr. Wesley Wong<sup>8</sup>, Ms. Jennifer Nugent<sup>9</sup>, Mr. Savvas Frantzeskos<sup>10</sup>, Dr. Michael Duffy<sup>11</sup>, and Dr. Raja Rampersaud<sup>3,12</sup>

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## Introduction

COVID-19 closures significantly reduced available outpatient services and management resources for patients with low back pain (LBP). In response, Rapid Access Clinics-Low Back, in Ontario, implemented virtual care (VC) to minimize anticipated backlog and patient deterioration. To optimize rapid implementation, we needed to understand patients' preferences related to VC in the context of an assessment by an unknown healthcare provider. Objectives of this study were to determine 1) Rates and reasons for accepting/declining an initial virtual LBP assessment; and 2) Satisfaction with VC for LBP.

## Methods

A mixed methods approach was utilized. Telephone surveys were completed to determine accept/decline VC rates with reasons during lockdown period of the pandemic (no in-person option available); and following lockdown (both in-person and VC options available). For those who participated in VC an electronic questionnaire with fixed response options and opportunities for open-ended comments was distributed via email. Descriptive statistics and qualitative thematic analysis were applied to the data.

## Results

During lockdown (April/May), 63 survey patients were offered VC and 34 (54%) accepted. Following lockdown (July/Aug), 102 survey patients were offered either VC or in-person assessment. Sixty-four (63%) accepted VC. During both periods, the main reasons for declining VC were no video, email, computer, or internet (17%); lack of confidence with technology (24%); and preferred in-person (8%). One hundred forty-seven post-assessment VC satisfaction questionnaires were completed (June-November). Based on a 5-point Likert scale, (5 most positive), overall satisfaction with virtual low back assessment was 4.7/5; and likelihood of participating in VC again was 4.7/5. Qualitative analysis revealed three main themes: Importance of human connection; Patient-perceived virtual physical examination limitations; and VC efficiencies.

## Conclusion

Presented with a choice of onsite or VC for LBP post-pandemic lockdown, the majority of patients chose VC. Reasons for declining VC were predominantly related to technological limitations regardless of timing and assessment type offered. With a high satisfaction rate, VC represents an efficient, patient-centric option for initial assessment and management of LBP.





# Perceptions, Facilitators and Barriers of Physical Activity in Axial Spondyloarthritis: Results from a Qualitative Study

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Schroeder Arthritis Institute, Krembil Research Institute, Toronto Western Hospital, University Health Network

## Objectives

The benefits of physical activity (PA) are well known for preventing chronic disease, improving function and increasing musculoskeletal and cardiorespiratory fitness. Despite these benefits, most Canadians fall short of PA targets. It is well established that PA is fundamental in the management of axial spondyloarthritis (axSpA); however, evidence indicates that people with axSpA are not adhering to recommended guidelines for sufficient PA participation. Given the importance of PA in managing axSpA, the objectives this study were to: 1) determine axSpA patients' definition of PA; 2) identify facilitators and barriers to PA engagement and 3) explore the importance of PA in the context of axSpA.

## Methods

Semi-structured, key informant interviews were conducted with axSpA patients attending an urban academic outpatient rheumatology clinic. Interviews were conducted by telephone, audio recorded and transcribed verbatim. Data were analyzed using a thematic approach: two study investigators independently assigned themes and codes to the data set according to study objectives. Key informant recruitment continued until saturation of emergent themes was reached. Themes were presented to the investigative team to allow for comparison and reconciliation. Systematic labeling of the dataset was completed using an inductive approach. QSR NVivo V8 was used for data management and aggregation of codes into common themes.

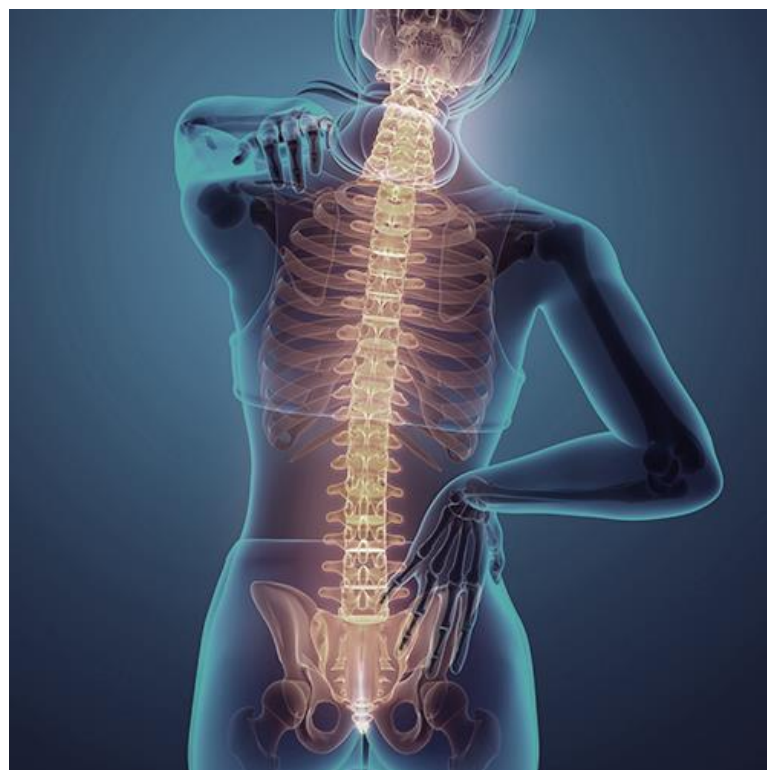
## Results

In total, 12 interviews were conducted. Most respondents were male (83.3%); mean age 45.5 (+/-12.5) years; mean disease duration 21.5 (+/-14.9) years. Approximately half were receiving biologic treatment (58.3%), mean Bath Ankylosing Spondylitis Disease Activity Index 2.5 (+/-1.4) and mean Bath Ankylosing Spondylitis Functional Index 1.8 (+/-1.9). Participants defined PA as any activity involving physical exertion including exercise and other activities (i.e., transportation, employment, housework and seasonal activities). Facilitators for PA engagement included intrinsic factors (symptom relief, impact on health and self-efficacy) and extrinsic factors (social support networks and facility access). Similarly, barriers to PA engagement

included intrinsic factors (disease-related, fear of injury, and presence of comorbidities) and extrinsic factors (life demands, availability/time and environmental restrictions). The role of PA in axSpA management was well recognized and included symptom relief, the evolution of benefits and the impact on mental and physical health.

## Conclusions

The results of this study provide insight into patients' understanding of PA within the context of axSpA in terms of definition, facilitators/barriers, and its role in disease management. The above findings will be informative when applied to education and self-management programs aimed at increasing PA engagement in patients with axSpA.



# Preparatory Videos for Virtual Care Orthopaedic Consult: A Key to Success

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**Tamara Gotal** PT, MPT, ACPAC, Advanced Practice Provider (Physiotherapy Practitioner), Schroeder Arthritis Institute, Toronto Western Hospital, University Health Network

**Emily May** BScBIOL, BPHE, MScPT, ACPAC, Advanced Practice Provider (Physiotherapy Practitioner), Schroeder Arthritis Institute, Toronto Western Hospital, University Health Network

## Purpose

Preparatory videos for patients with musculoskeletal problems affecting the spine, shoulder/elbow, hip/knee, and foot/ankle, assessed by advanced practice physiotherapists (APPs) in collaborative care orthopaedic specialty clinics were developed. This study

- 1) Describes the process undertaken to develop preparatory videos for virtual care (VC) orthopedic specialty consultations; and
- 2) Provides patient perspectives regarding preparatory videos as part of VC experience.

## Methodology/Approach

Multi-stakeholder engagement including patients, APPs, and administrative leaders informed development of patient preparatory videos. Feedback from patients and clinicians regarding barriers and enablers to VC was used to inform content development. APP clinical experts developed patient education content related to specific orthopaedic examinations using power point slides and video demonstration. Video and audio were developed using iMovie software to create 5-7 minute videos. Administrative leaders were engaged throughout the process to ensure standardized formatting and branding. Videos were then sent to all members of respective clinical teams for feedback prior to finalization.

Evaluation of VC, including preparatory videos, was completed utilizing an electronically administered questionnaire with options for both quantitative and qualitative feedback. Questionnaire items included a 5-point Likert scale with 5 being the most favourable response option. Qualitative feedback was obtained through open-ended response options. Descriptive statistics were applied to quantitative data. Qualitative responses underwent content analysis for emergent themes. Ongoing experiential feedback was solicited from clinicians and incorporated in an iterative manner.

## Findings/Results

Preparatory videos were created for the patient populations listed above. Videos included tips for patients on how to prepare for their virtual visit including recommendations on testing equipment (including audio/video), appropriate clothing, securing your space, and visual demonstration of what to expect for the physical examination.

From August 1, 2020-January 21, 2021, 325 patient questionnaires were completed. Ninety percent were assessed by videoconference and 10% by telephone. Our results indicate patients found preparatory videos helpful in preparation for VC: Average 4.4/5 Likert Scale. Overall satisfaction with VC was high: Average 4.7/5 Likert Scale. Clinicians reported preparatory videos optimized efficient time utilization during consults and enabled patients to be prepared and engaged.

Content analysis of qualitative data revealed patients found preparatory videos helpful as illustrated by the following quote: *"The video [was helpful] to show what to expect and [how] to set up the room accordingly."*

## Conclusions/Implications/Recommendations

Preparatory videos helped to minimize technology-related barriers to VC and prepare patients to be actively engaged in a physical examination. Overall, preparatory videos contributed to high patient satisfaction with VC. Our results suggest that VC may continue to be the method of choice for patients for assessment and management, post-pandemic, due to convenience, cost, geography, and preference. In addition, there is potential applicability to other musculoskeletal populations. The addition of preparatory videos is recommended to optimize efficient time utilization during consults and enable patients to be prepared and engaged. Our results coupled with APP feedback suggest that preparatory videos contribute to overall improved patient and provider experience with VC.

# Rapid Access to Interventional Pain Management for Lumbar Nerve Root Pain through Collaborative Interprofessional Provider Networks

Ms. Marcia Correale<sup>1,2</sup>, Ms. Kala Sundararajan<sup>3</sup>, Dr. Rachael Bosma<sup>4,5,6</sup>, Dr. Gil Faclier<sup>4,7</sup>, Dr. Tania Di Renna<sup>4,8,9</sup>, Dr. Raja Rampersaud<sup>3,10</sup>

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## Objectives

A pilot collaborative agreement between two separately funded programs, the rapid access Interprofessional Spine Assessment and Education Clinics (ISAEC) and the Toronto Academic Pain Medicine Institute (TAPMI), was created to reduce wait-times for targeted nerve injections (NIs). The objective of this study was to assess the impact of this collaborative network approach on wait-times for lumbar nerve injections for appropriately selected patients.

## Method

A retrospective review of prospectively collected data from a single ISAEC site. Prior to the ISAEC-TAPMI collaborative approach, ISAEC patients were referred for nerve injections (NI) through existing regional institutional options (interventional radiology or anaesthesia pain clinics). The ISAEC-TAPMI pilot collaborative facilitated dedicated NI slots for ISAEC patients meeting appropriate agreed upon criteria. The following wait-times were collected prior to and after implementation of ISAEC-TAPMI collaboration: 1) Primary Care Provider to ISAEC – community based Advance Practice Provider assessment (PCP-APP); APP to ISAEC-centralized Speciality Practice Lead assessment (APP-PL); and PL to NI procedure (PL-NI). Descriptive statistics were utilized.

## Results

There were 67 and 76 patients the pre and post collaboration groups respectively. The average age was 50 years with 40 females in the pre and 57 years with 41 females in the post group. Mean PCP-APP wait was 19 vs. 21 days and the mean APP-PL wait was 23 vs. 25 days in the pre vs. post group respectively. The mean PL-NI wait was 125 (43-426) vs. 42 (1-120) days in the pre vs. post group respectively. The median PL-NI was 106 vs. 40 days in the in the pre vs. post group respectively. From the perspective of the TAPMI interventional pain specialist, referral appropriateness from ISAEC was 98%.

## Conclusions

Our study demonstrates that synergist networked collaborations can improve appropriateness and significantly reduce wait-times for specific limited access interventions. Consideration should be given to more formal assessment of the efficiencies and cost-effectiveness of such models.



# Rapid Access to Interventional Pain Management for Lumbar Nerve Root Pain through Collaborative Interprofessional Provider Networks

Ms. Marcia Correale<sup>1,2</sup>, Dr. Tania Di Renna<sup>4,8,9</sup>, Ms. Kala Sundararajan<sup>3</sup>, Dr. Rachael Bosma<sup>4,5,6</sup>, Dr. Gil Faclier<sup>4,7</sup>, Dr. Raja Rampersaud<sup>3,10</sup>

<sup>1</sup>LB-RAC - ISAEC Model of Care University Health Network, Toronto, ON, Canada. <sup>2</sup>Department of Physical Therapy, University of Toronto, Toronto, ON, Canada. <sup>3</sup>Division of Orthopaedics, Arthritis Program, University Health Network, Toronto, ON, Canada. <sup>4</sup>Toronto Academic Pain Medicine Institute, Toronto, ON, Canada. <sup>5</sup>Faculty of Dentistry, University of Toronto, Toronto, ON, Canada. <sup>6</sup>University of Toronto, Centre for the Study of Pain, Toronto, ON, Canada. <sup>7</sup>University of Toronto, Toronto, ON, Canada. <sup>8</sup>Anesthesiology, University Health Network, Toronto, ON, Canada. <sup>9</sup>University of Toronto, Department of Anesthesia, Toronto, ON, Canada. <sup>10</sup>Division of Orthopaedic Surgery, Department of Surgery, University of Toronto, Toronto, ON, Canada

## Background

Low back pain (LBP) is a highly prevalent, poorly managed condition that is the number one cause of years lived with disability worldwide. The **Inter-professional Spine Assessment and Education Clinics (ISAEC: [www.isaec.org](http://www.isaec.org))** is a novel multidisciplinary model of care for LBP funded by the Ontario Ministry of Health, in Canada. The model utilizes advanced practice physiotherapists to appropriately manage and triage patients for surgical intervention. The success of advanced practice physiotherapist triage models are known in orthopedics including the emergency department as well as rheumatology. However, to our knowledge there is no literature to support such a model for direct referral to injection therapy for pain management.

## Purpose

A pilot collaborative agreement between two separately funded programs, ISAEC and the Toronto Academic Pain Medicine Institute (TAPMI), was created to reduce wait-times for targeted nerve injections (NIs). The purpose of this quality improvement (QI) project was to assess the impact of referral from the Physiotherapy Practice Lead (PL) to NI and determine the impact on 1) wait-times and 2) agreement between the PL and Anesthesiologist for lumbar nerve injections for appropriately selected patients.

## Method

A retrospective review of prospectively collected data from a single ISAEC site. Prior to the ISAEC-TAPMI collaborative approach, ISAEC patients were referred for nerve injections (NI) through existing regional institutional options (interventional radiology or anaesthesia pain clinics). The ISAEC-TAPMI pilot collaborative facilitated dedicated NI slots for ISAEC patients meeting appropriate agreed upon criteria. The following wait-times were collected prior to and after implementation of ISAEC-TAPMI collaboration: 1) Primary Care Provider to ISAEC – community-based Advance Practice Provider assessment (PCP-

APP); APP to ISAEC-centralized Speciality Practice Lead assessment (APP-PL); and PL to NI procedure (PL-NI). Descriptive statistics were utilized.

## Results

There were 67 and 76 patients in the pre- and post-collaboration groups respectively. The average age was 50 years with 40 females in the pre-group; and 57 years with 41 females in the post-group. Mean PCP-APP wait was 19 vs. 21 days and the mean APP-PL wait was 23 vs. 25 days in the pre vs. post group respectively. The mean PL-NI wait was 125 (43-426) vs. 42 (1-120) days in the pre vs. post group respectively. The median PL-NI was 106 vs. 40 days in the in the pre vs. post group respectively. From the perspective of the TAMPI interventional pain specialist, referral appropriateness from ISAEC was 98%.

## Conclusions

Our QI project demonstrates that synergist networked collaborations can improve appropriateness and significantly reduce wait-times for specific limited access interventions. In conclusion, we found the ISAEC-TAPMI partnership improved wait-times for nerve root injections with a high degree of appropriate referrals. Future considerations include a more formal assessment of the efficiencies and cost-effectiveness associated with advanced practice physiotherapist triage for nerve root injections.

## Implications

Developing collaborative relationships was key to maximizing efficiencies for patients with low back related symptoms, and advanced practice physiotherapists with additional training and competencies can demonstrate high agreement when selecting appropriate patients for nerve root injection.

# The Development of a Low Back Rapid Access Clinic: Virtual Assessment and Education Toolkit

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## Background

COVID-19 significantly disrupted all outpatient services and reduced available resources for patients with low back pain (LBP). More than 1000 new referrals were on hold as a direct consequence of closures. Without access to care, patients with LBP may present to emergency departments unnecessarily, increase opioid use, become increasingly debilitated with functional limitations, and be at increased risk of developing chronic pain pathways and behaviours. In response, a Low Back Rapid Access Clinic: Virtual Assessment and Education Toolkit (LBRAC: VAET) was developed to enable virtual care and minimize the anticipated collateral damage to patients with LBP from this global pandemic.

## Purpose

To develop a Toolkit that supports and enables the delivery of a standardized approach to virtual care for low back pain across the province of Ontario.

## Methods

A multi-methods approach was utilized. A needs assessment was conducted via webinar with 103 advanced practice ISAEC clinicians to understand the barriers and enablers of virtual care. This webinar was recorded, transcribed, and analyzed to ascertain a deeper understanding of emergent issues. For barriers, solutions were explored with key stakeholders including government funding agencies, regulatory colleges, professional associations, senior administrative hospital leads, advanced practice clinicians, and spine surgeon sponsors, through further conferencing. Identified enablers, and solutions to barriers were compiled into a framework and a consensus validation process was undertaken. Based on the final agreed upon components, the Virtual Care Toolkit was developed.

## Results

The LBRAC: VAET was developed and acts as a resource for the delivery of virtual care across the province of Ontario. Fifteen out of seventeen regional hospitals utilize the toolkit to understand the processes and procedures surrounding virtual care and modify the resources to support local policies. As virtual low back assessments are a novel approach to care, online resources and videos were created to improve the experience for both patients and providers. Preliminary feedback is positive and a formal patient satisfaction survey has been implemented. The framework for virtual care also involved consultation with the provincial spine surgeon to ensure there was a pathway for escalation for more urgent clinical cases and to ease some of the clinician anxieties associated with virtual care for the low back.

## Conclusions

The development and implementation of a Toolkit for Virtual Care for patients with LBP in a geographically diverse region of Canada enabled minimal disruption of care, thereby reducing risk of chronicity and opioid dependence; and allowed clinicians to maintain their clinical practice, and identify urgent cases, requiring emergent surgical attention, during this COVID-19 pandemic. Physiotherapists with advanced training were integral to the successful development and implementation of this provincial initiative that can be used as a model for other musculoskeletal conditions.

## Implications

Virtual Care was initiated in response to COVID-19, however it is anticipated this method of care delivery will continue after the global pandemic resolves, as virtual care improves access to services in more remote areas, can be a preferred method of receiving care for some patients, and may be a more convenient alternative in situations where travelling to an appointment is difficult.



# The Role of E-Health Technology in Physical Activity for Patients with Axial Spondyloarthritis: Results from a Qualitative Study

Ms. Laura Passalent, Ms. Alaina Cyr, Dr. Igor Jurisica, Dr. Sunita Mathur, Dr. Nigil Haroon, Dr. Robert Inman

Schroeder Arthritis Institute, Krembil Research Institute, Toronto Western Hospital, University Health Network

## Objectives

Physical activity (PA) is fundamental in the management of axial spondyloarthritis (axSpA); however, evidence suggests that patients with axSpA are not adhering to PA recommendations. The literature suggests enhanced social support systems, health care professional monitoring, and technology support may improve adherence to PA targets. Several approaches to increasing PA in the general population and in patients with chronic disease have demonstrated that e-health technology (e.g. telephone reminders, mobile text messaging and web-based interventions) can effectively influence PA participation. The aim of this study was to explore the role of e-health technology to increase PA engagement among patients with axSpA with respect to: 1) smartphone habits; 2) technology design; 3) electronic reminders; 4) performance feedback and 5) virtual support.

## Methods

Semi-structured key informant interviews were conducted with axSpA patients attending an urban academic outpatient rheumatology clinic. Interviews were conducted by telephone, audio recorded, and transcribed verbatim. Data was analyzed using a thematic approach: two study investigators independently assigned themes and codes to the data set according to study objectives. Key informant recruitment continued until saturation of emergent themes was reached. Themes were presented to the investigative team to allow for comparison and reconciliation. Systematic labeling of the dataset was completed using an inductive

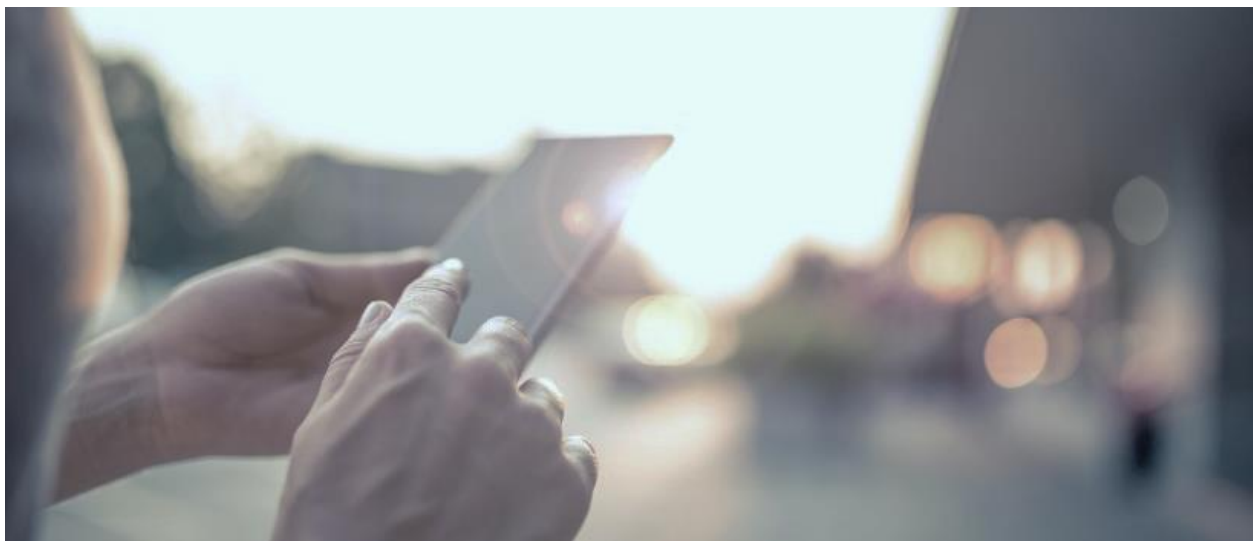
approach. QSR NVivo V8 was used for data management and aggregation of codes into common themes.

## Results

In total, 12 interviews were conducted. Most respondents were male (83.3%); mean age 45.5 (+/-12.5) years; mean disease duration 21.5 (+/-14.9) years. Participants indicated high confidence using technology, mean 8.1 (+/-1.7) on a 10-point scale. One third (33.3%) of participants reported have their smartphone on their person when engaging in exercise or PA. The design of e-health technology was considered important in the context of PA and should incorporate simple layout, easy operation and intuitive function. The role of technological reminders to encourage PA participation included the risk of apathy, concern regarding interruptions, and emphasis on the ability to customize reminders. Feedback was an important component of e-health technology to increase PA engagement with respect to knowledge of progress and goal acquisition. Virtual support networks with peers, mentors and health care providers was considered important to provide encouragement and accountability.

## Conclusion

The results of this study provide a foundation to guide development of a patient-centered e-health technology intervention to increase PA uptake in patients with axSpA and thereby improve disease-related outcomes and quality of life in this patient population.



# Utilization of Virtual Technology and an Advanced Practice Physiotherapist (APP) to Improve Access to Foot and Ankle (FA) Care during COVID-19: A Retrospective Review

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## Introduction

Due to the paucity of orthopaedic surgeons specialized in FA care, access has historically been limited. The COVID-19 pandemic jeopardized access further. Utilization of virtual technology (telephone and computer-based platforms) combined with an APP model was instituted to improve access to care. The surgeon and APP worked collaboratively to virtually assess patients with FA pathology.

## Purpose

The purpose of this study was to: 1) retrospectively describe a FA patient population that underwent initial assessment through virtual technology utilizing an APP model; and 2) Measure patient satisfaction with virtual technology.

## Methods

A retrospective chart review was conducted, patients assessed from August to October of 2020. Demographic details including age and sex; virtual technology method; joint involvement; clinical diagnosis; and clinical outcome were extracted. In addition, a retrospective review was conducted of an electronically distributed survey consisting of 12 questions including "overall satisfaction with a virtual visit". Satisfaction was graded using a 5-point star rating scale saved as a numeric value with 1 being "not at all satisfied" and 5 being "definitely satisfied". Descriptive statistics were utilized to summarize data. REB approval was gained.

## Results

Our sample consisted of 117 patients; 77 (66%) female and 40 (34%) male. Ninety-five percent were assessed with a computer-based platform and five % by telephone. Age for computer-based assessment ranged between 16-81, with an average age of 53. Telephone assessment age ranged between 49-73, with an average age of 63. Overall age was 54; Joint involvement was: 70 (60%) foot; 34 (29%) ankle; and 13 (11%) both joints. Diagnostic breakdown was as follows: 33 (28%) osteoarthritis; 30 (26%) toe deformities; seven (six %) pes planus/posterior tibialis tendon dysfunction; two (two %) pes

cavus/peroneal tear; 10 (eight %) tendinitis; 10 (15%) pain (including neuropathic); three (three %) osteochondral defect; and 10 (12 %) other.

Clinical outcomes of virtual assessment were: 57 (49%) required further diagnostics; 56 (48%) appropriate for conservative management; seven (six %) discharged; 10 (eight %) referred to other specialties; and 17 (15%) scheduled for direct in-person assessment. Thirty (26%) patients were deemed surgical candidates, of which four (seven %) signed surgical consent at in-person assessment. The remaining 26 (22%) patients were waiting for follow up or diagnostics.

Fifty-five patient satisfaction surveys were completed. Overall, patient satisfaction was 96% (4.8/5.0). Ninety percent (4.5/5.0) found the video helpful for appointment preparation and 98% (4.9/5.0) would participate in a virtual assessment again.

## Conclusions

Our results demonstrate virtual care utilizing an APP model is effective for assessing a wide range of diagnoses. Computer-based assessments were not age biased. Electronic resources proved helpful to patient experience and overall satisfaction. The model validated virtual care as a valuable initial triage step, as only a small percentage of patients went deemed surgical. Although the model was instituted during a pandemic, extension of the model for future applications, including geographic isolation and mobility restrictions can improve access to FA care, while maintaining high patient satisfaction.

# Utilizing a Novel Model of Care to Improve Wait-times and Diagnosis of Patients with Upper-extremity Pain

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## Introduction

The upper extremity is a complex joint prone to recurrent pain<sup>1</sup>. Historically, diagnostic accuracy in the community is poor (<50%)<sup>2</sup>, leading to a high number of referrals to specialists. Concurrently, this has increased wait times for patients to initiate appropriate treatment.

The Extended Scope Physiotherapist (ESP) shoulder and elbow clinic started in 2014 to improve wait times, reducing time to surgery (for patients requiring surgery), and provide a collaborative, shared care model. Patients with shoulder and elbow pain are referred from primary care and other medical specialists, within Ontario, to two upper extremity specialist orthopaedic surgeons.

## Methods

The ESP clinic is staffed by an Advanced Clinician Practitioner in Arthritis Care (ACPAC) Program-trained physiotherapist who provides specialist upper extremity assessment, education and management within an inter-professional team. All referrals to the two orthopaedic surgeons are triaged and then assessed by the ESP independently or in a tandem clinical format with the ESP and the surgeon. The ESP completes a comprehensive history and physical examination and orders imaging and laboratory investigations as indicated. Wait times, patient satisfaction and diagnostic agreement was collected.

## Results

The clinic has received an average of 116 referrals per month over the past 12 months. In that time, 778 new patients have been assessed, with average wait times, by assigned priority (P); P1=2.5 days, P2=11.5 days, P3=21.5 days, P4=23 days. The historical average wait time for patients to be assessed by orthopaedic surgeon was 6 months. Patient satisfaction with ESP Clinic has been rated as very good-excellent. Diagnosis was collected at the independent ESP assessment and the again at subsequent surgical assessments. Results show that



over a 12-month period the diagnostic agreement was 86% between the ESP and surgical team.

## Conclusion

The ESP clinic was established to reduce patient wait times while improving diagnostic accuracy for patients with upper extremity pain. The ESP clinic has shown high diagnostic agreement with the specialist surgeons and has reduced wait times, while showing high patient satisfaction.

## Implications

Utilizing ACPAC trained ESP clinicians show a strong potential for improving patient care in Ontario. The results from a 12-month analysis of the clinic are promising and show that an ESP working closely with the surgical team is an effective model of care.

<sup>1</sup> Chaudhury S, Gwilym SE, Moser J, Carr AJ. Surgical options for patients with shoulder pain. *Nat Rev Rheumatol*. 2010;6(4):217-226. Shelain Patel Mrcs, Fahad S Hossain

<sup>2</sup> Mrcs HBC, Mrcs ME, Lee MH, Orth F. The accuracy of primary care teams in diagnosing disorders. 2011;17(January 2008):118-122.

# Appendix

## SCHOLARSHIP SPOTLIGHT AUTHORSHIP BREAKDOWN

### 24 Abstracts:

#### 5 Leadership

#### 24 Frontline Clinician

- 8 Advanced Practice Practitioner
- 2 Integrated Care Leads / Clinical Care Coordinator
- 8 Provincial Practice Leaders (RAC LBP)
- 6 SAI Physicians

#### 3 Partners (2 TECHNA & 1 Altum Health)

#### 16 External Collaborators

- 7 SAI/Krembil Research
- 5 external MDs
- 3 TAPMI
- 1 TGH

Schroeder Arthritis Institute, Clinical Director Portfolio						Collaborators	
Leadership	Advanced Physiotherapy Practitioners & Clinical Coordinator	Provincial Practice Leaders (RAC LBP)	SAI Physicians	TECHNA Partners	Altum Health Partner	Research	External (to TWH)
Contributed to 13 abstracts (Supporting authors)	Contributed to 23 abstracts (Primary & Supporting Authors)	Contributed to 1 abstract (Supporting Authors)	Contributed to 16 abstracts (Senior Authors)	Contributed to 5 abstracts (Primary & Supporting Authors)	Contributed to 1 abstracts (Supporting Authors)	Contributed to 6 abstracts (Supporting authors)	Contributed to 3 abstracts (Supporting authors)
Silvi Groe	Tamara Gotal	Maria Rachevitz Sunnybrook APP Dept PT UofT	Dr. Johnny Lau	Meera Vignarajah	Lauren Meschino	DO Lawson TWH Rheum Research	Dr. K.A. Alnaqbi United Arab Emirates
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Dr. Christian Veillette	Chris Hawke	Dr. Sherri Robertson Thunder Bay APP	Dr. Rajiv Gandhi			Kala Sundararajan TWH Research	Dr. Hilary Steinhart Mount Sinai Hospital
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	Leslie Soever	J Nugent Windsor APP	Dr. Tim Leroux			Dr. Igor Jurisica SAI/Krembil	Dr. Stephan Wolman TGH
	Andrew Courchene	Savvas Frantzeskos Kingston APP				Dr. Sunita Mathur SAI/Krembil	Dr. Tania Di Renna TAPMI
	Emily May	Dr. Michael Duffy Orillia APP					Dr. Rachel Bosma TAPMI
	Sandrilee Rose						Dr. Gil Faclier TAPMI
	Lindsay Maynard						

**Volume 1.0: June 18, 2021**

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