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Spotlight on:

The CRA ASM: Collaboration, Resilience, and Advancement

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EDITORIAL

Acronyms Gone Wild

By Philip A. Baer, MDCM, FRCPC, FACR

The theme of the recently completed CRA 2021 Annual Scientific Meeting was "CRA." What does that mean? Well, the first CRA is our own Canadian Rheumatology Association (*www.rheum.ca*), not to be confused with the California Rheumatology Alliance (*www.calrheum.org*) or the Canada Revenue Agency (*www.canada.ca/revenue-agency*), which at times has taken unwanted interest in our CRA. If you do clinical trials, you may also be familiar with the job title Clinical Research Associate, also abbreviated CRA. The second CRA cleverly stands for Collaboration, Resilience and Advancement.

My other affiliations include the OMA, which is the Ontario Medical Association, not the now frequently used acronym OMA to represent non-TNF inhibitor biologics, which have "Other Mechanisms of Action." I also belong to the Ontario Rheumatology Association (ORA), which shares that acronym with the French "Orencia in Rheumatoid Arthritis" registry.

How can we keep all these acronyms straight? Enter the world of clinical trial acronyms and you will get even more confused. We have two AMBITION trials in rheumatology: "Actemra versus Methotrexate double-Blind Investigative Trial in mONotherapy," and "A study of first-line aMBrIsentan and Tadalafil combinatION therapy in subjects with pulmonary arterial hypertension." Both are examples of the Tolstoy manoeuvre, on which more later.

Similarly, I recall the MORE trial: "Multiple Outcomes for Raloxifene Evaluation," and another MORE trial which I was a principal investigator for: "a multi-center, double-blind, randomized, parallel-group trial to compare the efficacy and safety of three doses of MelOxicam (7.5, 15, and 22.5 mg) and placebo in patients With RhEumatoid arthritis."

The SELECT clinical trial program is also familiar to rheumatologists, covering multiple trials of upadacitinib. An earlier SELECT trial was the Safety and Efficacy Large-scale Evaluation of COX-inhibiting Therapies trial in osteoarthritis, comparing meloxicam to piroxicam.

Duplicate trial acronyms abound, often with only one of the pair relating to rheumatology. A recent journal club reviewed findings of the Multicenter Osteoarthritis Study (MOST), not to be confused with the Mode Selection Trial in Sinus-Node Dysfunction (MOST) in cardiology.

Speaking of cardiology, it leads the list in percentage of trials with acronyms, including 16 using the acronym HEART. Other popular trial acronyms are IMPACT and SMART, used 16 and 13 times respectively.

I recommend reading two excellent papers on acronyms, both available free online, and both with rheumatology angles explored. In 2003, Drs. Fred and Cheng published Acronymesis.[1] The term indicates that improper use of acronyms has become a nemesis. Failure to define acronyms, duplication of acronyms as above, and coercive acronyms are all covered. The latter refers to trial names such as CURE, MIRACLE and SAVE, which may falsely entice patients to participate. Reference is made to trials with positive-sounding acronyms that had negative results, including IMPROVED and PROMISE.

The Tolstoy manoeuvre is referenced, but not by name. This refers to using random letters in a trial's name, not the first or second letters in a word, to build a catchy acronym. Both AMBITION trials are guilty, as were RENAISSANCE (Randomized Etanercept North American Strategy to Study AntagoNism of CytokinEs) and RENEWAL (Randomized EtaNErcept Worldwide evALuation).

More recently, the Christmas 2014 issue of the *British Medical Journal (BMJ)* featured a Danish group's research paper, entitled "SearCh for humourIstic and Extravagant acroNyms and Thoroughly Inappropriate names For Important Clinical trials (SCIENTIFIC): qualitative and quantitative systematic study."[2] This semi-serious study reviewed a number of RCTs in different specialties, including rheumatology. Acronyms were assessed for positive and negative features using the aptly named BEAUTY and CHEATING criteria: (BEAUTY, Boosting Elegant Acronyms Using a Tally Yardstick) and negative (CHEATING, obsCure and awkHward usE of lettArs Trying to spell somethING). They also included a list of honourable and dishonourable mentions that did not obtain a particularly high or low score but still deserved to be highlighted.

Results indicated that 8.1% of 1,404 RA RCTs published between 2000 and 2012 used acronyms in their titles. 5.8% of RA trial acronyms were considered "cool." The top-scoring acronym was PREDICTIVE, a diabetes trial. No RA trial made the top 25. However, a Canadian rheumatology trial topped the list of 25 worst acronyms. This was the METGO study of 2005: "a 48-week, randomized, double-blind, double-observer, placebo-controlled multicenter trial of combination METhotrexate and intramuscular GOld therapy in rheumatoid arthritis."[3] This study was run out of UBC and the Arthritis Research Centre. Named authors included Allen Lehman, John Esdaile, Alice Klinkhoff, Eric Grant, Avril Fitzgerald, and Janice Canvin. The other investigators hid under the cloak of the "METGO Study Group."

One RA study, which I confess I had never heard of despite the fact it was published both in *A&R* 2011 and *ARD*

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2012, made the honourable mentions list: "Treating to target matrix metalloproteinase 3 normalisation together with disease activity score below 2.6 yields better effects than each alone in rheumatoid arthritis patients: treating to twin targets; the T-4 study." We also had an entry on the dishonourable mentions list: the "Abatacept study to Determine the effectiveness in preventing the development of rheumatoid arthritis in RA patients with Undifferentiated inflammatory arthritis and to evaluate Safety and Tolerability (ADJUST)." This study was also cited as an example of a failed Tolstoy manoeuvre, as the letter J is not present anywhere in the title!

For now, in the world of virtual meetings, everything happens in your home or office on your computer screen. When we return to in-person meetings, remember not to confuse any of the CRA acronyms, or you could end up in Los Angeles when you should be in Quebec City.

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2. Pottegård A, et al. SearCh for humourIstic and Extravagant acroNyms and Thoroughly. BMJ (Clinical research ed). 2014; 349:g7092. doi: 10.1136/bmj.g7092.
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Update on CRA Initiatives

CRA SCR
CANADIAN RHEUMATOLOGY ASSOCIATION | SOCIÉTÉ CANADIENNE DE RHUMATOLOGIE

The Canadian Rheumatology Association (CRA) is pleased to provide the following updates:

Pediatric Choosing Wisely Recommendations

Over the last several months, the CRA Choosing Wisely Pediatric subcommittee has developed a list of seven recommendations that clinicians and patients should consider regarding resource stewardship. This list will be published on the Choosing Wisely Canada website: *choosingwiselycanada.org/*. The development of this list was a collaborative endeavour, involving not only CRA members but an Advanced Clinical Practitioner in Arthritis Care (ACPAC), parent and patient representative as well.

Position Statement on Virtual Care

The CRA has published a position statement on virtual care. The purpose of the position statement is to support responsible, appropriate virtual health usage by Canadian rheumatologists. The position statement recognizes that rheumatologists will and should continue to use virtual health post-pandemic; identifies the benefits of virtual health and the need for ongoing support; and recognizes the importance of establishing virtual health practice standards. Visit the following link for more information: *rheum.ca/wp-content/uploads/2021/04/EN-CRA-Position-Statement-on-Virtual-Care_April-29_2021.pdf.* Best practice statements for virtual care in rheumatology are currently being finalized and will be another valuable resource for CRA members coming soon!

Call for 2022 ASM Workshop Proposals

Members of the CRA and Arthritis Health Professions Association (AHPA) are invited to share their knowledge and experience by submitting a workshop proposal for the upcoming 2022 Annual Scientific Meeting. ASM interactive workshops are intended to bring the rheumatology community together to discuss topics and issues that optimize patient care. For more information and to submit a proposal, please visit *rheum.ca*. The deadline to submit is July 30, 2021.

Updated CRA Recommendation on COVID-19 Vaccination in Persons with Autoimmune Rheumatic Disease

The CRA GRADE recommendation, originally published on February 13, 2021, has now been updated to include the AstraZeneca and Johnson & Johnson vaccines and can be found on the CRA website at *rheum.ca/resources/publications/*. Additionally, the manuscript has been published in the *Journal of Rheumatology* and is available to read here: *jrheum.org/content/early/2021/05/11/jrheum.210288*.The CRA Decision Aid for the COVID-19 Vaccine that accompanies this guidance is being updated and expanded to include considerations for pediatric patients. This tool is currently under development but may in fact be published

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Presidential Address

By Evelyn Sutton, President of the CRA

It is with great pleasure and humility that I have the privilege to serve members of the Canadian Rheumatology Association as the president for a second year. Looking back and having been part of CRA's response since the onset of the COVID-19 pandemic, I cannot overstate the work that we have all undertaken and the pressures we have faced. I am proud of how well our team, committees, members, volunteers as well as partners have been proactive in developing resources, tools, advocacy campaigns, guidelines, and many other elements for the benefit of the rheumatology community. This past year, we also formed the CRA's first Diversity & Inclusion Task Force as we seek to ensure our association delivers an inclusive opportunity and experience for all future and current members, as well as stakeholders. Although our community is distanced, our resilience and dedication continually foster a spirit of togetherness.

With the current trend of work, practice, programs, and events that are transitioning into virtual environments, this unique situation has also provided an opportunity to reflect on our pre-pandemic habits, and to be increasingly cognizant of issues relating to climate change. The CRA recently hosted an event on sustainability featuring Dr. David Suzuki, who summed up the situation with immense urgency. "The very survival of all human beings is at risk." This is not hyperbole—the evidence Dr. Suzuki presented was overwhelmingly convincing.

This is our time to change the world, and I challenge all of us to proactively seek out information and make informed decisions about how we live and how we can lessen our impact on the environment. At my weekly meeting last week with our CEO, Dr. Ahmad Zbib, we discussed what we can do individually and as an organization to decrease our carbon footprint. A few of our ideas were to walk when we can, share rides when walking is not an option, and to reduce in-person CRA meetings by half. We need to do this! I would love to hear your suggestions and what you are planning to do. We cannot ignore the science of climate change. Our work as rheumatologists is important and will be for naught if we don't have a world with clean water and air.

Now, more than ever, we must support each other. It is with a reinvigorated spirit in my second year that I pledge to everyone, as president of the CRA, that the entire team and I are ready and here to support you. The CRA will continue to innovate dynamically to positively shape the future of rheumatology in Canada. Until we meet again, I look forward to connecting with you all at Canada Night, and at our 2022 Annual Scientific Meeting, in person or remotely. Remember to make time for yourselves, your family and friends and don't hesitate to reach out to your CRA family.

Evelyn Sutton, MD, FRCPC, FACP
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Update on CRA Initiatives *continued from page 5*

by the time of this publication. Please check the CRA website at *rheum.ca/covid-19/.*

Updated CRA Position Statement on COVID-19 Vaccination Care

In addition to the CRA GRADE recommendation on COVID-19 Vaccination, CRA has also published an update to the Position Statement on COVID-19 Vaccination to include the expanded use of the Pfizer-BioNTech vaccine in children between the ages of 12-15 years. The Position Statement is a document intended not only for clinicians, but for the public and decision-makers as well and is often used as an advocacy tool. The Position Statement has been updated several times since its first publication on December 31, 2020, to reflect changing recommendations and to advocate for the prioritization of vaccination and early second doses for immunocompromised individuals. Visit *rheum.ca/resources/publications/* to read the updated CRA Position Statement.

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CANADIAN INITIATIVE FOR OUTCOMES IN RHEUMATOLOGY CARE | INITIATIVE CANADIENNE POUR DES RESULTATS EN SOINS RHUMATOLOGIQUES

Patient, Rheumatologist and Nurse Perspectives on Multidisciplinary Rheumatology Care Assessments in B.C.

By Glory Apantaku, MSc; Michelle Teo, MD, FRCPC; and Mark Harrison, MSc, PhD

Since 2011, rheumatologists in British Columbia (B.C.) have been able to use a "Multidisciplinary Care Assessment" billing code which provides additional reimbursement when they see patients with certain rheumatic conditions along with a nurse. The code was designed to provide patients with counselling and education from rheumatology nurses, but was not prescriptive in what this comprised. It was also anticipated that rheumatologists might change the way they work, freeing up time to see more patients.

We sought to describe the delivery of multidisciplinary care in B.C. under this billing code and its perceived impact on care by conducting 45 interviews with 21 patients, 12 rheumatologists and 12 nurses from private and community practices located in four of the five health authorities in B.C. We found variety in the way multidisciplinary care was delivered with individual practices adopting differing appointment structures. These fell into three broad categories. Some practices had sequential appointments with patients spending time individually with the rheumatologist and the nurse. Some used shared appointments where patients, rheumatologists and nurses had a three-way conversation. Others had a blend of these shared and sequential structures, with patients getting time to debrief with the nurse after the shared portion of the appointment.

Patients appreciated having nurses involved as it gave them more contact with a health professional. They described having informative discussions with their nurses which made them feel more knowledgeable about their life-long condition and medications. Rheumatologists felt having nurses in their practice improved efficiency, increasing the numbers of patients seen and reducing wait times. Their interactions with patients were more productive as they could concentrate on addressing specific medical details whilst assured that their nurses covered patient education, training about medications and disease management. We found educating patients was one of the core roles nurses performed in this interprofessional care model.

Some rheumatologists and nurses discussed initial difficulties with adopting this way of working, primarily with regard to the initial training of nurses, which was often rheumatologist-led and time consuming, given the absence of specific guidance on the role and scope of nurses under this billing code. However, rheumatologists were able to learn from their colleagues and customize the role of nurses to best fit their practices; after the initial adaptation time, rheumatologists described the addition of nurses to their practices as rewarding for them and their patients.

The rheumatologists and patients we spoke to in this study were positive about the role of nurses in Multidisciplinary Care Assessments and believe that rheumatology nurses improve overall care for patients.

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The CRA's 2021 Distinguished Rheumatologist: Dr. Rachel Shupak

Why did you become a rheumatologist? What or who influenced you along the way to do so?

My decision to become a rheumatologist occurred in my PGY2 year when I looked after a young woman who presented with an acute and severe polyarticular inflammatory arthritis that totally disabled her. Under the supervision of Drs. Gladman and Lynn Russell, we were able to treat her effectively and she walked out of the hospital. The ability to treat and control inflammation both articular and systemic and at the same time minimize or prevent damage was a powerful influence on my decision. As a rheumatologist, I believe that we make a big difference in the quality of our patients' lives.

Since 1995, you've been Associate Professor in the Department of Medicine at the University of Toronto (UofT). Over the past 40 years, you've taught and mentored many undergraduate students, postgraduate residents and rheumatology residents. In your role as Clinician Educator, you've had the opportunity to develop, operationalize and evaluate innovative educational programs for primary care clinicians, patients and allied health professionals.

(a) From where do you think your passion for education stemmed?

At an early stage in my career, I recognized the importance of training our young students, both undergraduate and postgraduate, to recognize, diagnose and manage patients with rheumatic diseases. For my first five years on staff at St. Michael's Hospital (SMH), I ran a general internal medicine team for three months a year, which gave me the opportunity to interact with many students and residents on a regular basis. I was rewarded with a number of teaching awards at the postgraduate and undergraduate level which made me recognize that I was probably doing a good job. Over many years, I strengthened my teaching skills and eventually cultivated the ability to develop educational programs and thus evolved into the clinician-educator role.

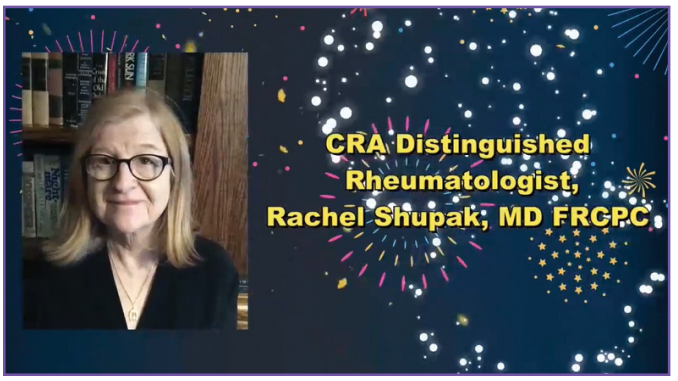
(b) As a respected clinician-educator, what would your advice be to a prospective rheumatologist?

I would advise them that to be a good rheumatologist, you have to first be a good internist. Rheumatology deals with systemic diseases in patients who are often quite ill and requiring extensive treatment and monitoring. A detailed comprehensive history and physical exam is the foundation of our specialty which remains very much hands-on. The breadth and depth of knowledge in this specialty is growing at a rapid rate and ongoing learning is an essential part of training and clinical practice.

I was grand-mothered as a clinician-educator but today formal training and a Master's degree is required to assume this role in academic practice. All academic rheumatologists are required to teach, whereas clinician-educators' role is to develop innovative programs, evaluate these programs and publish the results.

The "jewel in your crown" is the Advanced Clinician Practitioner in Arthritis Care or ACPAC program, which you co-developed with your esteemed colleague, Dr. Katie Lundon. This academic/residency program has created a new cadre of clinician practitioners to address the current and growing gap in access to care for patients with arthritis and musculoskeletal (MSK) conditions. One hundred highly knowledgeable and skilled practitioners, graduates of this rigorous program, are poised to work in a model of shared care delivery. Why did you create this program and how has it impacted the Canadian rheumatology landscape?

Recognizing that there will never be enough rheumatologists to provide equitable access to care, Katie and I hoped to change the way care is delivered for patients with arthritis and MSK diseases. We developed a formal rigorous program for existing allied health care professionals that was competency based and which we prospectively evaluated at the program and trainee level. The gap in access to and quality of care for patients with arthritis and MSK conditions is in large part due to a well-documented inadequate number and unequal distribution of rheumatologists practicing in Canada. Our goal was to increase knowledge (academic program) and hands-on training (residency program) for existing heath care providers to enable them to work in a model of shared care, thus improving access to and continuity of arthritis and MSK care in rural/remote, community and urban centers. Last year, Amanda Steiman kindly took over my role as the medical director of the ACPAC program.



Dr. Shupak receiving the CRA Distinguished Rheumatologist Award during the virtual gala in February.

Can you tell us about your involvement with The Annual Arthritis Day for Primary Care Clinicians, which has continued into its 14th year and addresses relevant MSK gaps in the knowledge of family doctors and ACPAC practitioners?

I started this program approximately 15 years ago to provide continuing medical education to primary care physicians and practitioners. Although MSK/arthritis represents about 15% of all patients seen in primary care, it is well recognized that knowledge and skills in assessment, diagnosis and management of these conditions needs to be enhanced at the primary care level. My colleague Dr. Ophir Vinik took over the role of Medical Director of this continuing professional development (CPD) program about five years ago and continues to provide an outstanding annual CPD course.

What is the greatest professional and organizational challenge you have faced, and how did you address/ overcome this challenge?

We embarked on ACPAC, a very ambitious project and were determined to create a rigorous program, episodically delivered and competency based. We had a large faculty (>90), largely volunteers, that made the program the success it has become. However, finding a sustainable home and funding for the ACPAC program proved to be a huge challenge, despite our heroic efforts. We were making substantial gains with the Ministry of Health (MOH) prior to the change in government, which unfortunately then never moved forward. This is an ongoing bureaucratic process that continues and will in my opinion be successful, due to the recognized incredible added value of the ACPAC graduates on the delivery of care to our patients.

What major changes to the landscape of rheumatology have you witnessed over the course of your career?

Mostly, we have all seen an explosion in biologic therapies for rheumatic diseases, benefitting our patients tremendously.

What do you foresee as challenges to Canadian rheumatologists in the future and what can individual rheumatologists and the CRA do to meet these challenges?

I believe that we need to remain patient-focused in all we do. The challenge is to provide equitable (newer models of care), affordable (provincially supported) care. We need to double down on our effort to develop one of the Chronic Disease Management Portfolios that will provide the resources required to effectively manage our patients' care. Recruitment and retention of rheumatologists has been an issue dating back to when I first started in practice. This has been a priority for the CRA and needs to continue. However, attention is also needed to foster the development of newer models of care, utilizing knowledgeable, well-trained and highly skilled allied health professionals to decrease the gap in access to and quality of care. This would require new provincial funding models, referral patterns and adoption of medical directives recently provided to nurse practitioners in Ontario. Cancer and diabetes are examples where this can work effectively to the satisfaction of the physicians, allied health care providers and patients.

What is your favourite book of all time?

I like historical fiction best as it takes me to different places and times in history. I thoroughly enjoyed "A Gentleman in Moscow" by Amor Towles.

If you had an extra hour in the day, how would you spend it?

Gardening.

If you could eat one food for the rest of your life, what would it be?

Bread.

If you had a "theme song" that played whenever you enter a room full of people, what song would it be?

"What the world needs now is love sweet love." There is too much anger and hatred in the world today.

How many cups of coffee does it take to make a productive day?

Two at breakfast (to get me going in the morning) and one at 4 pm (to allow me to finish my day).

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The CRA's 2021 Distinguished Investigator: Dr. Sasha Bernatsky

What was your first thought when you learned that you would receive this award?
I am so grateful!

Why did you become a rheumatologist? What or who influenced you along the way to do so?
When I entered medical school, I did not have the faintest clue that there was a specialty like rheumatology. . . I wanted to be a psychiatrist! But I became captivated by internal medicine; it was so challenging, and I felt that if I conquered internal medicine, I would know everything. Early in my internal medicine training, I did a rotation in rheumatology. This exposed me to some very wonderful people, including Drs. John Thompson and Janet Pope. When I learned more about rheumatology, I found that all the things I liked best about internal medicine were what typified rheumatology: the challenges, the knowledge, and the opportunity to develop long-lasting relationships with patients. My love of rheumatology was strengthened by contact with the wonderful rheumatologists at the Arthritis Centre in Winnipeg, especially Drs. Hani El-Gabalawy, Christine Peschken, and Kiem Oen.

What do you believe are the qualities of a distinguished investigator?
If you look at people like Marvin Fritzler, Paul Fortin, Diane Lacaille, and John Hanly, and so many others, you notice not only that they are brilliant and hard-working, but that they are truly kind people, who really care about others. They are fun to work with. They have a vision beyond themselves, they work to accomplish goals that focus on improving the lives of people with arthritis, lupus, etc. They are determined, but they don't force their own way. They inspire everyone around them. They are great leaders who create opportunities for others.

You have been nominated Principal Investigator (PI) of CAN-AIM, the Canadian Network for Advanced Interdisciplinary Methods for comparative effectiveness research, funded by the Drug Safety and Effectiveness Network (DSEN), a collaboration between the Canadian Institutes of Health Research (CIHR), Health Canada, and other stakeholders. Can you tell us about your work?
DSEN was established to address knowledge gaps on the safety and effectiveness of drugs used in real-world settings in Canada and worldwide, to help regulators, policymakers, healthcare providers and patients. Since 2012, CAN-AIM researchers have collaborated with policymakers in the Marketed Health Products Directorate, the Biologics and Genetic Therapies Directorate, and the Pharmaceutical Policy Division, Office of Pharmaceutical Management at Health Canada's Strategic Policy Branch. We have built bridges with many other stakeholders such as the Canadian Agency for Drugs and Technologies in Health, the Pan-Canadian Pharmaceutical Alliance, and provincial formulary bodies. Our research is based on clinical and population-based cohorts and administrative data to produce timely answers to queries. Currently, CAN-AIM investigators have created a biologic registry with the intent of providing real-world information comparing the safety and effectiveness of biosimilar drugs versus their originator biologic drugs. This five-year study of adults with inflammatory rheumatic disease or inflammatory bowel disease relies on the work of many investigators, including Denis Choquette, Walter Maksymowych, Gilles Boire, Vivian Bykerk, Robert Inman, Claire Bombardier, Carol Hitchon, Carter Thorne, Claire Barber and many more. For more information, please contact Autumn Neville at *autumn.neville@rimuhc.ca* or visit *canaim.ca*.

Can you tell us about your experience with the Systemic Lupus Erythematosus (SLE) International Collaborating Clinics (SLICC) and the Canadian Network for Improved Outcomes in SLE (CaNIOS), as well as your work in co-founding collaborative networks such as the Canadian Rheumatic Administrative Database Network (CANRAD)?
As a rheumatology trainee, I had the great fortune to join CaNIOS, founded by Paul Fortin, who led me to begin post-graduate training in epidemiology. He introduced me to Dr. Ann Clarke, who was co-director (with Christian Pineau) of the McGill University Health Centre (MUHC) Lupus Clinic, originally founded by John Esdaile. At the time, Len and Judy Funk introduced me to the patient group Lupus Canada. Without the CaNIOS network, and the support of Lupus Canada, I wouldn't have been able to begin my epidemiology training; the result was my PhD research on cancer in SLE, a multi-centre effort that brought together SLICC and CaNIOS lupus researchers. This effort ultimately clarified that lupus patients have an increased risk of certain cancers (such as lymphoma) but a decreased risk of others (such as breast). The reasons for this may be multi-factorial: SLICC and CaNIOS investigators have banded together over the years to clarify how drugs might shape this risk. For example, while we saw no clear effect of most lupus drugs on cancer risk, hydroxychloroquine decreased the risk of some cancers, while cyclophosphamide increased it.

Regarding my association with CANRAD, Drs. Claire Bombardier, Diane Lacaille, and Lisa Lix were some of the masterminds behind the Canadian Rheumatic Administrative Database Network. CANRAD first came together as a coalition of researchers linked with policymakers and other stakeholders to produce guideline statements for rheumatic disease research and surveillance using Canadian administrative data. Through the years, it has been funded by the Canadian Arthritis Network, CIHR, and other agencies. The CANRAD network has continued to attract brilliant investigators, like Jessica Widdifield, Carol Hitchon, Lihi Eder, and others, who have greatly increased research capacity in Canada.

Your research on air pollution has been described by Health Canada's Air Quality Assessment Section chief as "the first indication that air pollution could be tied to such a specific disease state, which influenced our thinking about the inflammatory potential of air pollution." Can you describe your research findings in this area and its significance?

I feel very lucky to have been the first researcher to uncover trends linking road-traffic density and fine particulate matter (PM2.5) exposures and systemic autoimmune rheumatic disease prevalence. I was mentored by incredible people like the wonderful Dr. Audrey Smargiassi. The biologic plausibility of links between air pollution and rheumatic disease was supported by our very exciting paper suggesting links between PM2.5 levels and anti-DNA antibodies and other key manifestations of SLE. As further "proof of principle," we published a cross-sectional study indicating that industrial emissions of PM2.5 and SO_2 correlate with other autoantibodies important in rheumatoid arthritis. To ensure that knowledge from my research is used by policymakers, we collaborate closely with the chief of Air Quality Assessment within the Air Health Effects Division of Health Canada, and the Science Advisor for Health Canada. These individuals are responsible for updating review documents on the health effects of air pollution, which form the basis of negotiations between federal, provincial and territorial government stakeholders in partnership with the Canadian Council of Ministers of the Environment. These documents are used in decisions related to national air quality standards and are also consulted by the US Environment Protection Agency and other international bodies. Our successes inspired others, such as Michelle Petri's group at Johns Hopkins to study air pollution and SLE. It's a very exciting time.

Are there other areas of interest you would like to investigate in the future?

I'm very interested in personalized treatment for SLE patients—beginning with hydroxychloroquine (HCQ). Although HCQ is a key drug, there are increasing concerns about side effects. Uncertainty about the balance between the risks and benefits of stopping or continuing HCQ is a primary gap voiced by SLE patients and their doctors. Almost all rheumatologists in the world prescribe HCQ on a daily basis, but we do not have evidence on how to best use it. I have been working with wonderful SLICC and CaNIOS investigators to identify subgroups of SLE patients at particular risk of having flares or developing adverse events associated with HCQ use. However, truly personalized treatment must consider patients' preferences, and Glen Hazlewood is helping me design a discrete choice experiment on that topic, with other CaNIOS investigators. Ultimately we need pragmatic trials to understand outcomes related to reducing HCQ in select groups (considering their risk profile and preferences).

What have been the most rewarding aspects of going into the field of rheumatology and what have been some of the most challenging aspects?

I love the relationships our patients develop with us. I love helping a patient find the right combination of therapies to make them feel the best that they can be. This was something that I think Hani El-Gabalawy first taught me. The most challenging thing is that most of my patients don't have easy access to physiotherapy, occupational therapy, social work, or counselling. It also scares me when my patients are hospitalized with life-threatening complications. But one of my first rheumatology mentors, Dr. Barringer, told me that we can't allow ourselves to feel overwhelmed; our patients may feel overwhelmed but it is our job to be strong and do all we can to help them overcome every setback along every part of their journey. This is made easier by the wonderful comradeship of my fellow rheumatologists who work so hard for our patients, especially my colleagues at the Montreal General: Chris Pineau, Evelyne Vinet, Ines Colmegna, Beth Hazel, Fares Kalache, Arielle Mendel, Michael Starr, Michael Stein, Mary-Anne Fitzcharles, and Pantelis Panopalis (plus our very hard-working staff).

What is your proudest accomplishment?

I don't feel that I should be proud of any accomplishments. I have been given so many opportunities and have been so inspired by special people like Cheryl Barnabe, Jessica Widdifield, Evelyne Vinet, Glen Hazlewood, Stephanie Keeling, Murray Urowitz, Carter Thorne, Dafna Gladman, Susan Bartlett, Michel Zummer, Debbie Feldman, and so many others.

What advice would you give to someone looking to pursue a career as an academic rheumatologist?

Be grateful, be mindful. Always remember that you were placed on this earth for a reason (*www.desiderata.com/desiderata.html*). For me, the greatest academic rheumatologists are people like Marie Hudson and Ines Colmegna who live to serve others and strive for excellence. Unfortunately, academia can feel like a "rat race." We must look to the example of people like Marie and Ines and others who never seem to forget the reason we are here: to find answers for our patients, to help them live better lives.

You are handed a plane ticket to anywhere in the world (once the pandemic is over). Where do you go?

Well, I am crazy about Vienna, such a wonderful city…but I can't wait to see my mom again, so I guess I would pick Winnipeg over Vienna this time.

You are marooned on a desert island. What book would you like to have on hand with you?

I would choose the scriptures… I need to be reminded every day that I am loved, I am forgiven, I am free…and I need a constant reminder that since I have been shown so much love and mercy, I must try to show the same.

Are you more of a morning or night person?

I grew up on a farm so… Early to bed, early to rise.

How many cups of coffee does it take to make a productive day?

I love green tea and I drink several cups a day but have to swear off it by 1 or 2 pm. Sometimes l have a little espresso after lunch. Dark chocolate helps too.

Sasha Bernatsky, MD, PhD
Professor,
Department of Medicine,
Division of Rheumatology, Faculty of Medicine
McGill University
Research Institute of the McGill University Health Centre
Centre for Outcome Research & Evaluation (CORE)
Montreal, Quebec

The CRA's 2021 Distinguished Teacher-Educator: Dr. Elaine Yacyshyn

What was your first thought when you learned that you would receive this award?

I was in the middle of clinic with a resident and felt that it was amazing to be teaching when I received the notification. I was deeply honoured to receive this award. It was a true privilege to be recognized by my peers. I was also very thankful to those who nominated me, and to the many residents and fellows who I have worked with, as well as my colleagues locally and nationally.

Can you recall a teacher in your own past who inspired your direction into education?

I have been very fortunate to have had great teachers who both inspired and encouraged me to become a clinician educator. My most amazing teachers stand out because of the personal connection they made with learners. I recall my kindergarten teacher, who was the kindest woman, and shared her cookies at recess. Numerous teachers through junior high and high school spent time fostering curiosity in their subject areas. At university, a chemistry professor was on stage to congratulate me at convocation. I also recall many gifted teachers in rheumatology who motivated me to do my best and spent time talking with me and guiding me to reach my fullest potential.

I have also been inspired by my learners who ask challenging questions, and encourage me to work with them on questions, and to push the envelope.

It was past and present teachers who showed kindness, generosity and wisdom and helped me focus on education in medicine.

What do you believe are the qualities of a good educator?

My philosophy is to ensure that all learners develop knowledge, skills, and competency in medicine.

My main method of instruction is context-based learning. I make use of opportunities to observe and interact, to provide timely feedback, and to motivate for learning. Students learn best as active learners. I see the role of a teacher as a facilitator and mentor, not a supplier of knowledge. I try to understand my students' knowledge and, through interaction, develop weaknesses into strengths.

I also believe in "physicianship" (Cruess et al), which affirms that physicians have roles as healers, professionals, and teachers who can integrate scientific and humanistic views of medicine.[1]

Learners need regular assessments and feedback. My aim has been to teach and mentor to the best of my ability. I believe it is important for me to continue to challenge myself, and I seek out opportunities to become a better teacher.

As a rheumatology program director at the University of Alberta, what were some of the opportunities and challenges you faced?

I was very fortunate to have been the rheumatology program director at the University of Alberta (UofA). This role enabled me to pursue my role as a clinician-educator.

I had the opportunity to optimize the rheumatology residency program at the UofA. I had the support of colleagues who were equally passionate about education and helped me to achieve these goals. As a program director I was able to meet many of my Canadian counterparts. I was inspired and encouraged by my colleagues and was able to pursue educational efforts at a national level. The opportunity to network with many amazing colleagues has been very rewarding and enjoyable.

It was always a challenge to choose our residents for the program, among all the great applicants. The qualifications of our learners continue to impress me. It has been gratifying to work with our residents and see them become amazing colleagues in a very short time.

You've also been an examiner for the Royal College of Physicians and Surgeons of Canada (RCPSC) Rheumatology Examination and examination chair for two terms. Currently you are a member of the RCPSC Examination Committee, which oversees all Royal College examinations.

Are you working on any exciting changes right now that you can share?

These are unprecedented times at the Royal College (RC) as we are in the midst of the pandemic. It has been impressive to see everyone work together to maintain the

high standards of evaluations and concern for learners. Over the last year, I have transitioned from Rheumatology Examination Chair to the Royal College Examination Committee. The Royal College examination boards continue to work hard to prepare valid tools to assess competency in a safe manner.

As a respected teacher-educator, what would your advice be to a prospective rheumatologist?

If you are interested in a career that provides the opportunity to see amazing patients, perform high-level research, and be able to teach fantastic learners, you should consider rheumatology! We are fortunate to have such rewarding careers.

How many cups of coffee does it take to make a productive day?

Most people who know me are aware that I do not drink coffee. I like herbal tea, but my guilty pleasure is an almond milk chai tea.

What is a hidden talent of yours that not many people know about?

I really enjoy playing the piano; I used to play when I was a child. I started taking lessons again a few years ago, and love to play Chopin. I have also learnt from my piano teacher how patient one needs to be as a teacher!

Dr. Yacyshyn receiving the CRA Distinguished Teacher-Educator Award during the virtual gala in February.

What would you be if you weren't a rheumatologist?

I think I would be a teacher and, like my kindergarten teacher, hand out Peak Frean cookies!

Elaine Yacyshyn, MD, FRCPC
Associate Professor and Rheumatologist,
Department of Medicine, Faculty of Medicine & Dentistry
University of Alberta,
Edmonton, Alberta

Reference:
1. Cruess RL, et al. Reframing medical education to support professional identity formation. Acad Med. 2014; 89(11):1446-51.

Looking Ahead Boldly

By Trish Barbato, President and CEO, Arthritis Society

As the Arthritis Society heads into a new fiscal year, we're excited about what lies ahead.

While the year was difficult for us and for so many people we support, it pushed us to innovate and change the way we do our work.

The year had many bright spots. Thanks to our generous donors, we were able to fund four additional research projects in March, bringing our investment last year to almost $4 million.

Close to two million people visited our website for credible and timely information to help them manage the disease. Our pages about COVID-19, which are updated regularly with new information, such as the CRA's vaccine decision aid, continue to be accessed frequently.

We reached 50,000 people from across the country through our monthly Arthritis Talks webinars. We encourage you to share information about upcoming Arthritis Talks with your patients, with topics including how to reduce flares, joint surgery 101, nutrition, physical activity and what research is revealing about medical cannabis. They are hosted in both English and French and all past webinars are available for viewing at *arthritis.ca*.

As we look to the year ahead, we're ramping up our efforts to think and act innovatively. We've re-launched our Strategic Plan, with goals to fund more research and reach more people than we ever have before.

We're thinking boldly, because we have to be bold, to get arthritis and the people living with it the attention they deserve. Thank you for partnering with us in that effort.

2021 Practice Reflection Award: Stephanie Gottheil, MD, FRCPC

Rheum Service: Improving Virtual Care During COVID-19

During COVID-19, patients require timely access to rheumatologists while physical distancing. As a new community clinic that opened in April 2020, we faced a unique challenge: unlike our colleagues with many long-term follow ups, all our patients were new consults requiring initial assessments. We saw this as an opportunity to design a comprehensive virtual care process from scratch.

Our virtual pathway had three phases: pre-visit, visit, and post-visit. In the pre-visit phase, we emailed appointment details with fillable forms (using Accuro/Ocean), and we offered training for video calls. In the visit phase, we used the Doxy.Me platform to connect with patients over video. In the post-visit phase, we offered patients a digital consultation report and access to secure physician messaging.

After receiving initial feedback, we refined our process by decreasing the frequency of email reminders and adding backup video platforms. Initially, patients were only offered a video test if they expressed concerns about using the technology. After studying our process, we increased pre-call testing by offering one-on-one tests for all patients, and finally switched to a self-guided test with one-on-one support if needed.

Between April-October 2020, 413/485 (85%) patients had an initial consultation by video. To measure patient satisfaction, we asked patients whether they would like to have another video appointment in the future using our anonymous survey. Out of 162 respondents, 62% said "yes"; 33% were "not sure"; and 6% said "no." We also wanted to measure if video calls resulted in accurate diagnoses. Out of 262 patients who had a subsequent in-person appointment, 232 (87%) maintained the same diagnosis from their initial video call, suggesting reasonable diagnostic accuracy.

An important process measure was the effectiveness of our pre-call video testing. Only 34/413 (8%) of video consults had technical difficulties resulting in a switch to telephone. Of these, 28 (82%) had not completed a pre-call video test, suggesting that the tests were effective.

While opening a new practice during COVID-19 was certainly a challenge, it allowed us to design and implement a new clinical workflow for virtual care. Based on the success of this project, we plan to continue offering video visits to our patients even after COVID-19 restrictions have been lifted.

Stephanie Gottheil, MD, FRCPC
Rheumatologist,
London Rheumatology
Adjunct Professor of Rheumatology,
Western University
London, Ontario

RheumJeopardy 2021

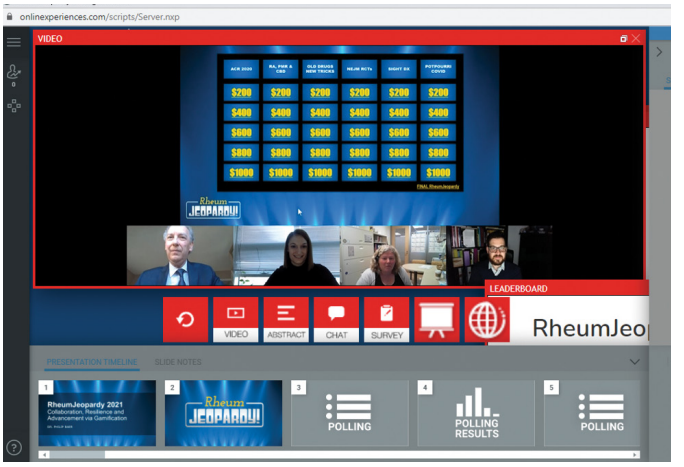
By Philip A. Baer, MDCM, FRCPC, FACR

For the sixth consecutive year, *RheumJeopardy* returned as a plenary session at the 2021 CRA Annual Scientific Meeting (ASM). The virtual format required some adjustments to work on the meeting platform, but the essence of the game experience was preserved. As the winning captain from the very closely contested 2020 edition, Dr. Hugues Allard-Chamard returned as Chair and scorekeeper. We maintained the traditional East versus West format, with Toronto the dividing line this year. Our team captains were Dr. Alexandra Legge from Halifax and Dr. Marinka Twilt from Calgary. This year, only the members of the team whose captain had selected a question voted on the answer, which had the effect of lowering the potential scores. Last year, captains had the chance to overrule their team's answers, but no one dared. This year, that option was removed, but only the team captains selected the Final Jeopardy wagers and answered the Final Jeopardy question. High pressure!

This was the first *RheumJeopardy* since the death of Alex Trebek, and our first one in a virtual format. I moderated from my home office, a little nervously as I had experienced an internet outage in the middle of an earlier symposium presentation that day. Fortunately, everything worked for *RheumJeopardy*.

I compose the questions months in advance, which led to one serendipitously easy question. Earlier in the day, Dr. Yazici had presented a symposium highlighting the efficacy of apremilast for oral ulcers in Behcet's syndrome. That was one of the questions in the *New England Journal of Medicine (NEJM)* randomized controlled trial (RCT) category, and of course it was answered correctly. I was also pleased to note that a question in the 2020 edition, highlighting the relationship of familial Mediterranean fever (FMF) with resistance to plaque mediated through Yersinia outer proteins (YOP) and the pyrin inflammasome, was featured in the 2021 Dunlop-Dottridge lecture by Dr. Dan Kastner. Another question which I had composed a few years earlier about the efficacy of corticosteroid disease-modifying anti-rheumatic drugs (csDMARDs) as anti-fungal agents drew a protest. I was relying on a 2017 study which highlighted auranofin, but an attendee found a 2019 study showing D-penicillamine (another answer choice) had similar efficacy.

The session drew 224 participants. After a practice question related to pandemic movies, twelve questions were selected in the main game. They proved to be quite difficult. ACR2020 and Sight Diagnoses were the most popular categories. The CRA Education Committee contributed three questions on CBD (competency by design), but none were selected. One stumper was the brand name of the Pfizer BioNTech COVID-19 vaccine. Comirnaty was the correct answer. The generic name is tozinameran.



Dr. Philip Baer hosted *RheumJeopardy* 2021 and is pictured here with team captains, Drs. Alexandra Legge and Marinka Twilt as well as last year's winning captain, Dr. Hugues Allard-Chamard who returned as chair and scorekeeper.

At the end of the main Jeopardy round, the teams were deadlocked at 1,600 points each. Both captains elected to wager everything on the Final Jeopardy question. As is traditional, the category was famous Canadian rheumatologists. In this case, the person was not a mystery: Janet Pope was highlighted, based on a RheumNow blog post she had written about the seven stages of her postgraduate medical career and her seven children. The question revolved around the distribution of her children across those seven stages from internship to full professor. The correct answer was a perfectly symmetrical one child per stage. That stumped both team captains, leading to an unprecedented final score: a 0-0 tie, more reminiscent of a soccer match than Jeopardy. As we had no time or provision for a tiebreaker, both teams were declared victorious. Drs. Legge and Twilt may have to split the chairing role if RheumJeopardy returns in 2022 in Quebec City.

Philip A. Baer, MDCM, FRCPC, FACR
Editor-in-chief, CRAJ
Scarborough, Ontario

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The Product Monograph is also available through our medical information department. Call 1-800-463-6001.

JAK = Janus kinase; PsA = Psoriatic arthritis; QD = Once daily; RA = Rheumatoid arthritis; UC = Ulcerative colitis

* Comparative clinical significance is unknown

† XELJANZ's patient support program was formerly known as the eXel™ patient support program. While the eXel™ program was for patients prescribed either XELJANZ or XELJANZ XR, the enrollment numbers presented are exclusive to patients taking XELJANZ, and not XELJANZ XR. The eXel™ program has now been replaced with PfizerFlex.

‡ Prescription and physician data were obtained from eXel™ support program enrollment forms collected from June 2014 to November 2018 and from the PfizerFlex Patient Support Program which replaced the eXel™ program from 2018 onwards.

References:

1. Pfizer Canada ULC. XELJANZ/XELJANZ XR Product Monograph.

2. Pfizer Inc. Data on file. 2021.

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A Great (Virtual) Debate: Be It Resolved that Telemedicine Allows Rheumatologists to Provide Excellent Care to Patients with Autoimmune Rheumatic Diseases

By Alexandra Saltman, MD, FRCPC, on behalf of Volodko Bakowsky, MD, FRCPC; Tommy Gerschman, MD, MSc, FRCPC; Jocelyne Murdoch, OT Reg. (Ont.), ACPAC; and Brent Ohata, MD, CM, FRCPC

This year's CRA meeting was one of many firsts, as rheumatologists from across the country embraced technology to participate in the annual meeting virtually, keeping everyone safe amidst a global pandemic.

The annual tradition of the Great Debate was no exception, wrapping up this year's meeting with a fact-and-fun filled hour of oral arguments and good old-fashioned jousting!

This year, the resolution was a timely one: "Be it Resolved that Telemedicine Allows Rheumatologists to Provide Excellent Care to Patients with Autoimmune Rheumatic Diseases."

Arguing in favour of the resolution were Drs. Tommy Gerschman and Alexandra Saltman, who proposed that, "Telemedicine is excellent patient care in brand new packaging…patient-centred packaging." They reminded the audience that telemedicine can encompass many domains, including virtual visits by video or telephone, the use of an online portal to share information, record measurements or coordinate care, and the use of email or text reminders.

They argued that tele-rheumatology is a means by which rheumatologists can provide care that is patient-centered and accessible, allowing patients to access care from remote or rural areas, as well as improving access to care for homebound patients. They presented data on patient satisfaction with virtual models of care, predating the pandemic and during its course, as well as early data suggesting that the quality is not diminished for patients with inflammatory arthritis who receive care virtually versus in person.

They also proposed that tele-rheumatology is cost-effective—saving patients, providers and the healthcare system the costs of travel, parking, lost time and income due to high no-show rates, and time off work for patients and family members to attend in-person appointments.

They further contended that tele-rheumatology afforded opportunities for collaborative and innovative models of care, working with other disciplines and within the patient's home environment to meet patients where they are at, and deliver high-value care.

Arguing against the resolution were Dr. Brent Ohata and Advanced Practice occupational therapist (OT) Jocelyne Murdoch, who maintained that rheumatologists are not ready to embrace 21st century technology, and that tele-rheumatology has been fraught with gaffes and blunders by patients and providers alike. They claimed that providing virtual care properly requires training, specialized knowledge, specific equipment and preparation on the part of the patient as well as the rheumatologist—none of which is sufficiently available or accessible in today's environment, despite the pivot to many virtual visits during the COVID-19 pandemic.

They went on to cite data showing poor uptake of virtual care amongst rheumatology colleagues across the country, a preference for telephone (47%) over video (19%) visits, and a lack of technical support for those who do engage in this type of care.

Furthermore, they argued that tele-rheumatology exacerbates inequities in care between the technological haves and have-nots, and they raised the frightening spectre of missed or delayed diagnoses due to the limitations of a virtual physical examination.

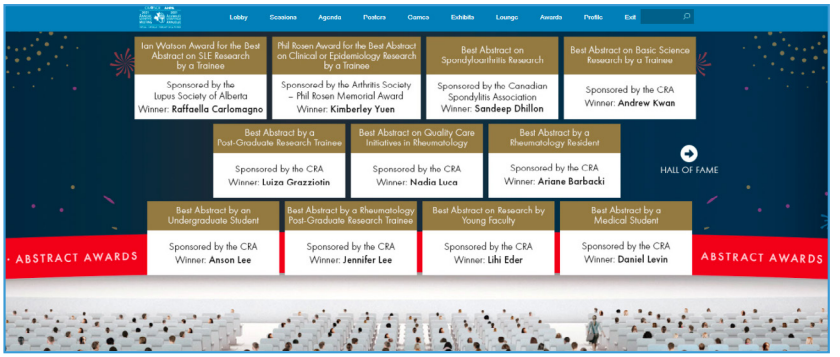
The rebuttals and summaries were filled with strong counter-arguments, with each debate team using their opponents' personal and professional experiences against them (though all in good fun!).

The outcome was "virtually" a tie, however the pro side did end up squeaking out a slim victory (aided, perhaps, by the absence of technological glitches mid-debate!), with the audience voting 53% in favour and 47% against the resolution. Perhaps these results show that, while there is certainly enthusiasm for virtual care amongst our colleagues, we still have work to do in optimizing tele-rheumatology for patients and providers alike—and the time to do so is now, since virtual care is here to stay.

The Canadian Rheumatology Association has recently put out a position statement related to virtual care (tele-rheumatology). It recognizes that as a profession we are at a unique time when we can responsibly seek to expand and better understand the role that tele-rheumatology may play in the future care of our patients.

Alexandra Saltman, B.A. (Hons), MD, FRCPC
Rheumatologist, Mount Sinai Hospital
Palliative Care Physician, Princess Margaret Hospital
University Health Network, Toronto, Ontario

Spotlight on the 2021 CRA Abstract Awards



Best Abstract on SLE Research by a Trainee – Ian Watson Award

Sponsored by the Lupus Society of Alberta
Winner: Dr. Raffaella Carlomagno, University of Toronto
Abstract Title: Genetics of Age at Diagnosis in Systemic Lupus Erythematosus
Supervisor: Dr. Linda Hiraki

Best Abstract on Clinical or Epidemiology Research by a Trainee – Phil Rosen Award

Sponsored by the Arthritis Society – Phil Rosen Memorial Award
Winner: Kimberley Yuen, Queen's University, School of Medicine
Abstract Title: Is the Montreal Cognitive Assessment (MoCA) a Suitable Screening Tool for Assessing Cognitive Impairment in Patients with Systemic Lupus Erythematosus (SLE) Compared to the American College of Rheumatology Neuropsychological Battery (ACR-NB)?
Supervisor: Dr. Zahi Touma

Best Abstract by a Rheumatology Resident

Sponsored by the CRA
Winner: Dr. Ariane Barbacki, McGill University
Abstract Title: Damage Trajectories in Systemic Sclerosis Using Group-Based Trajectory Modelling
Supervisors: Drs. Ada Man and Murray Baron

Best Abstract on Basic Science Research by a Trainee

Sponsored by the CRA
Winner: Andrew Kwan, University of Toronto
Abstract Title: Assessment of the Impact of Interferon Levels on Cognitive Dysfunction in Patients with SLE
Supervisor: Dr. Zahi Touma

Best Abstract by a Post-Graduate Research Trainee

Sponsored by the CRA
Winner: Luiza Grazziotin, University of Calgary
Abstract Title: Disentangling the Web of Costs Associated with Juvenile Idiopathic Arthritis
Supervisor: Dr. Deborah Marshall

Best Abstract on Quality Care Initiatives in Rheumatology

Sponsored by the CRA
Winner: Dr. Nadia Luca, University of Calgary
Abstract Title: Choosing Wisely: The Canadian Rheumatology Association Pediatric Committee's List of Items Physicians and Patients Should Question

Best Abstract by a Medical Student

Sponsored by the CRA
Winner: Daniel Levin, McMaster University
Abstract Title: The Fecal Microbiome Differences Between Patients With Systemic Sclerosis With And Without Small Intestinal Bacterial Overgrowth
Supervisors: Drs. Maggie Larche and Karen Beattie

Best Abstract by an Undergraduate Student

Sponsored by CRA
Winner: Anson Lee, McGill University
Abstract Title: Potential Savings for Canadian Public Drug Insurance Plans Related to Biosimilar Adalimumab
Supervisor: Dr. Sasha Bernatsky

Best Abstract by a Rheumatology Post-Graduate Research Trainee

Sponsored by CRA
Winner: Dr. Jennifer Lee, University of Toronto
Abstract Title: The Long-Term Cardiac and Non-Cardiac Prognosis of Kawasaki Disease (KD): A Systematic Review
Supervisor: Drs. Brian Feldman and Jessica Widdifield

Best Abstract on Research by Young Faculty

Sponsored by the CRA
Winner: Dr. Lihi Eder, University of Toronto
Abstract Title: COVID-19 hospitalizations, ICU admission, and death among Ontario residents with immune mediated inflammatory diseases

Best Abstract on Spondyloarthritis Research

Sponsored by the Canadian Spondylitis Association
Winner: Dr. Sandeep Dhillon, McMaster University
Abstract Title: Radiological Validation of a Novel MRI Reporting System for Axial Spondyloarthritis
Supervisor: Drs. John O'Neill and Raj Carmona

Top 10 Things You Should Know About the Eye in Your Rheumatology Practice

By Vanessa Ocampo, MD, FRCPC

Rheumatology is a subspecialty that doesn't just treat diseases that affect the musculoskeletal (MSK) system. One of the most common extra-musculoskeletal (EMSK) anatomical sites involved is the eye. The following are things we should know about the intersection of these two subspecialties, that you may find helpful.

1. Knowledge about basic ocular anatomy and the structures that can be affected by inflammatory conditions will help us to recognize them more easily, perform an appropriate evaluation, and prompt referral to the ophthalmology team. (see Figure 1).[1]

   The outer layer of the eye is composed of the cornea and the sclera. The inner layer consists of the retina. In conditions such as uveitis, dividing the eye anatomically by segments can help to classify the disease more easily (see Figure 2):

- Anterior: iris
- Intermediate: ciliary body, anterior vitreous, pars plana
- Posterior: choroid, retina and optic nerve

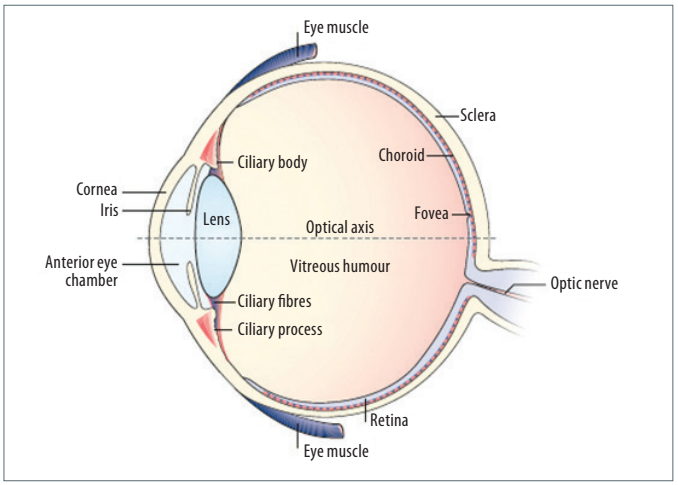


Figure 1: Overview of the Eye

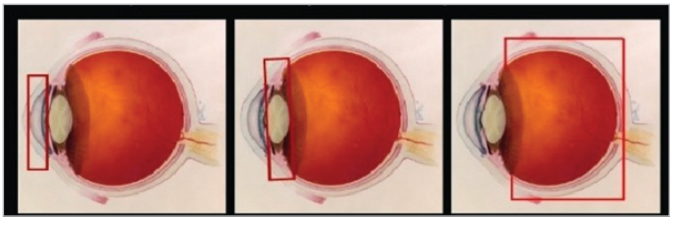


Figure 2: Classification of Uveitis

2. The most common ocular manifestations of rheumatic diseases include keratoconjunctivitis sicca, anterior uveitis (AU) and scleritis among others.[2,3]

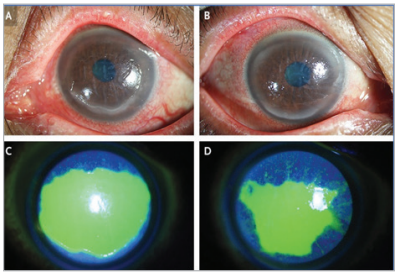


Figure 3: Keratoconjunctivitis Sicca in Sjogren's[4]

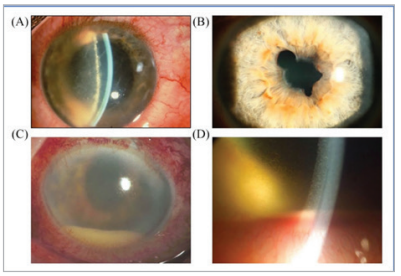


Figure 4: Acute Anterior Uveitis (AAU): A) Ciliary injection; B) Synechia; C) Hypopyon; D) Fibrin coating at the front of the lens[5]

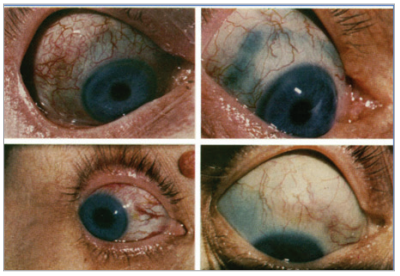


Figure 5: Scleritis in Rheumatoid Arthritis[6]

3. As rheumatologists we should recall that there are multiple eye manifestations of rheumatologic conditions such as the ones listed in Table 1. [7,3,8,9,2]

4. Approximately 40% of patients with SpA experience ≥1 EMSK manifestation during the course of the disease:[10,11,12,13]
   - Acute anterior uveitis (AAU) is one of the common EMSK manifestations of the SpA spectrum of diseases.
   - The prevalence of AAU is 22-40% in AS, with lower presentation in the rest of the entities (psoriatic arthritis or reactive arthritis).
   - HLA-B27 is present in 50% of AAU patients.

Table 1: Ophthalmologic and Rheumatologic Associations

Ophthalmologic diagnosis	Rheumatologic association
Orbital inflammatory disease	GPA*, sarcoidosis, IgG4-related disease, Sjogren's syndrome, IBD*, Behcet's disease, RA*, adult-onset still's disease, amyloidosis, histiocytic disorders
Keratoconjunctivitis sicca	RA*, SLE*, scleroderma, Sjogren's syndrome, graft vs host disease, RPC*
Episcleritis	RA*, vasculitis, IBD*, RPC*
Scleritis	RA*, GPA*, SpA*, Behcet's disease, IBD*, PMR*,
Scleritis associated with ulcerative keratitis	RA*, GPA*, RPC*, SLE*, Sjogren's, Behcet's disease, PsA, sarcoidosis
Necrotizing scleritis without inflammation (scleromalacia perforans)	Almost exclusively in RA
Uveitis	Behcet's disease & sarcoidosis can present in any form of uveitis
Anterior	RA/JIA, SpA, HLA-B27* non-specific arthropathy, reactive arthritis, PsA*, GPA*, IBD*, JIA*, Kawasaki disease
Intermediate	Multiple sclerosis
Posterior	PsA*, IBD*, SLE*, GCA*, PAN*, GPA*
Panuveitis	SLE*, VKH*, HLA-B27* associated, RPC*, PAN*, dermatomyositis
Retinal vasculitis	Most commonly Behcet's disease, sarcoidosis, multiple sclerosis Less frequently: ANCA associated vasculitis, large and medium vessel vasculitis, APS* Other: HLA-B27* associated uveitis dermatomyositis, Takayasu's, polymyositis, RPC*, RA*
Optic neuropathy	GCA*, SLE*, APS*

*GPA: Granulomatosis with polyangiitis; IBD: Inflammatory bowel disease; RA: Rheumatoid arthritis; SLE: Systemic lupus erythematosus; RPC: Relapsing polychondritis; SpA: spondyloarthritis; PMR: Polymyalgia rheumatica; JIA: Juvenile idiopathic arthritis; PsA: Psoriatic arthritis; PAN: polyarteritis nodosa; VKH: Vogt-Koyanagi-Harada; APS: Antiphospholipid syndrome

5. Uveitis, when left untreated, is an important cause of blindness[14] after under-corrected refractive errors, cataracts, glaucoma, and diabetic retinopathy.[15]
   - It is estimated to cause 10-15% of blindness in the U.S.
6. Always remind yourself about the possible eye–gut connection.[16,17]
   - The prevalence of IBD in AS is about 5-10%.
   - The prevalence of ophthalmic inflammatory disorders in IBD is variable, according to the population studied, ranging from 0.3% to 13.0% among all IBD patients.
7. AAU therapy includes topical cycloplegics (i.e., topical atropine), nonsteroidal anti-inflammatory drugs (NSAIDs), corticosteroids (topical, ocular injections, systemic). In recalcitrant cases, agents such as disease-modifying antirheumatic drugs (DMARDs) (i.e., methotrexate), mycophenolic acid, or adalimumab can be highly effective.
8. The most significant side effects of some of the drugs used to treat rheumatic disease are maculopathy associated with anti-malarial agents, and cataracts and glaucoma associated with corticosteroid use.[2]
9. When referring a patient to ophthalmology or when getting a referral from an ophthalmologist asking to rule out a rheumatologic condition in a patient with an inflammatory eye disease, be mindful of the investigations sent. Not every single condition in rheumatology causes eye involvement, such as uveitis.[9,18–20]

   For example, a diagnostic workup of value in a patient with unclassified uveitis includes routine complete blood count (CBC), comprehensive metabolic panel, urinalysis (UA), erythrocyte sedimentation rate (ESR), and C-reactive protein (CRP). Based on these results and the medical history, infectious disease studies, imaging and autoantibodies may be ordered.
   - All patients should have a chest X-Ray, venereal disease research laboratory test (VDRL) and the fluorescent treponemal antibody absorption (FTA-ABS).
   - Purified protein derivative (PPD) test and QuantiFERON: if there is suspicion of exposure to tuberculosis, CXR findings or pre-immunomodulatory therapy (IMT) assessment.
   - ANA: only in pediatric patients with pauciarticular JIA and uveitis (prognosis). In adults, only consider if there are other features of SLE, anti-C1q disease or another ANA-associated disease.
   - HLA-B27 is appropriate for patients with AAU, even in the absence of demonstrable SpA (prognostic implications).
10. With multiple crossover patients among these two subspecialities, rheumatologists should not ignore ocular symptoms and ophthalmologists should be specific in their referral regarding the ocular diagnosis and the possible systemic diseases they are suspecting in their patients. Ideally the two specialities should hold a clinic together to follow-up and manage these complex patients together. If a combined clinic is not possible, there should be a communication tool that allows for clear communication of patients' progress and management between the two of them.

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A Brief History of Treating Rheumatoid Arthritis

By Reza Mirza, MD, (based on a discussion with Dr. Arthur Bookman)

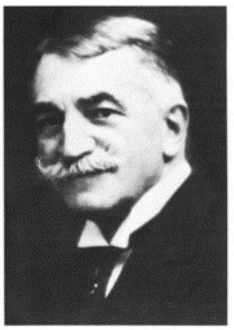
"One of the most intractable, obstinate, and crippling diseases that can befall the human body." – Lane and Griffiths, 1890

"Cases of ruin and despair, in one sense more malignant than cancer." – Spender, 1889

1920s:
"All that is gold does not glitter." *– J.R.R. Tolkien*

In 1929, Dr. Jacques Forestier—son of Henri, the founder of *La Ligue Internationale Contre Le Rheumatisme*—posited that rheumatoid arthritis (RA) and tuberculosis (TB) shared similar features: febrile illness with leukocytosis, anemia, and general malaise. He hypothesized that given gold's usefulness in TB, perhaps it would prove useful in RA.


Dr. Jacques Forestier


Dr. Henri Forestier

Over the next several years, he published a number of case series of gold trials in *The Lancet*. He injected 250 mg of gold thiopropanol intramuscular (IM) weekly x 10-12, waited a month, and in some cases gave another course.

Five of 15 patients had "excellent" response; another five had "much improved," two had "minimal response," and three were no worse. For comparison, we typically cite biologic response rates at 20% for ACR70, and 40% for ACR50+ (I say plus because people like myself forget ACR50 includes ACR70).

There remained ongoing controversary as to whether gold worked, until 1945, when Thomas Fraser published the results of the first double-blind randomized clinical trial (RCT) of any anti-rheumatic drug. It compared gold to placebo. He wasn't fortunate enough to have the Clinical Disease Activity Index (CDAI) or American College of Rheumatology (ACR) scoring system. He admitted himself: "It is difficult to decide what criteria to use." Forty-two percent (42%) had great improvement based on his impression.

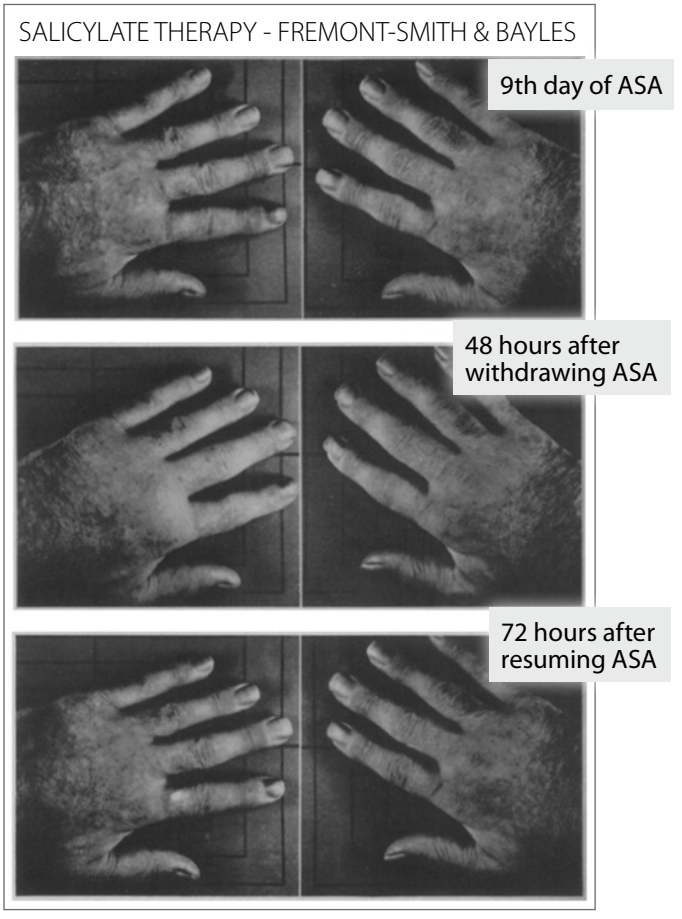
In the **1980s**, oral gold was developed: More convenient but less effective.

Overview of Gold's Clinical Properties (1998 RCT)

Efficacy: Gold was given as 50 mg IM weekly for 20 injections, then monthly maintenance. It had similar clinical, laboratory, and radiologic outcomes to methotrexate (MTX) 15 mg weekly orally.

Gold Side effects (S/E): proteinuria, rash/pruritis, thrombocytopenia, diarrhea.

Severe S/E: Mortality: ~1%, 7 deaths in a 750-patient observational cohort, due to hemorrhagic purpura (3), subacute necrosis of liver (2), agranulocytosis (1), exfoliative dermatitis (1)

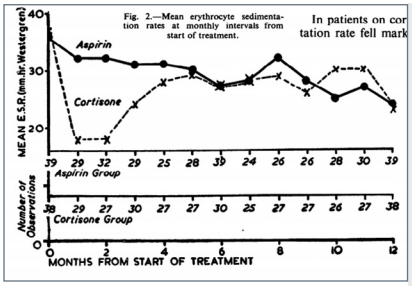


Mechanism of action (of gold):

- Patients treated with gold have decreased immunoglobulins, rheumatoid factor, and circulating immune complexes.
- Gold can dissociate antigenic peptides from MHCII, decreasing antigen presentation, demonstrated in vivo on HLA-DRB1 (the shared epitope).
- Gold blocks prostaglandin E2 production.

1940-50s: Rx. ASA 325 mg 3 tablets QID—You read that right!

The Empire Rheumatism Trial (1955) was the CYCLOPS trial of its day.[1] It proved acetylsalicylic acid (ASA) was no different than cortisone in terms of improvements in joint count and erythrocyte sedimentation rate (ESR) and ushered in an era of proliferating nonsteroidal anti-inflammatory drugs (NSAIDs)!



Enteric-coated ASA given in increasing doses until maximally tolerated. The usual optimum dose was 975 mg QID (3.9 g OD). You titrated to tinnitus then dropped the dose. Not the only instance rheumatologists invoked such a rule.

> Dr. Bookman: *"Nobody had an MI on high-dose aspirin. We thought rheumatoid protected from coronary disease until we switched to ibuprofen and naproxen."*

1950s: Cortisone

TABLE XI
AVERAGE HAEMOGLOBIN LEVELS AT BEGINNING, MIDDLE, AND END OF FIRST YEAR
(g. per cent.)

Time of Examination	Cortisone Mean ± S.E.	Aspirin Mean ± S.E.
Beginning of Year	12·5 ± 0·22	12·5 ± 0·27
Middle of Year	13·3 ± 0·27	12·5 ± 0·31
End of year	13·3 ± 0·15	13·1 ± 0·20

No evidence of bleeding (Hb went up)!

The first realization there may be an agent to put RA into remission came when physicians realized patients with RA who became jaundiced underwent spontaneous remission. The hunt was on for "Nature's Dramatic Antidote": "Volunteers with rheumatoid arthritis were given bile salts by mouth, a derivative of a bile acid (decholin) orally and intravenously, liver extracts parenterally, ox bile by proctoclysis [per rectum], and large amounts of human bile by stomach tube…" None of these worked!

Another clue came from women with RA who dramatically improved during pregnancy. The focus switched to hormones. In 1948, Dr. Kendall (a biochemist who isolated thyroxine and several adrenal hormones including cortisone) and Dr. Hench of Mayo Clinic trialed "Compound E" (cortisone) on a patient with rheumatism at a dose of 100 mg IM daily, and she improved dramatically within three days.

And so, they won the Nobel prize! Dr. Laurence Rubin insists you read their Nobel lecture on the discovery.[2] It is very good.

The next 60 years introduced the drugs we are familiar with, so we can leave their tales brief:

1960s: NSAIDs. The first was ibuprofen (patented 1962, marketed 1969); the second was naproxen (patented 1967, marketed 1976). At one point there were 15 NSAIDs on the Canadian market. Heart attack rates shot up. Hospitalizations for ulcer complications became epidemic.

1970s: Methotrexate and Cyclophosphamide. Rex Hoffmeister, a practicing rheumatologist from Spokane, Washington, reported positive effects with intramuscular MTX in 1972. At the ACR meeting people laughed him off. It took the stodgy rheumatology community until the 1980s to do the first double-blind trial.

1990s: Leflunomide received approval in 1998 in the U.S.: the same year as etanercept.

Conclusion

Rheumatology is the specialty with the most patient-important advances in the past several decades, as I see it. My colleagues and I cannot wait for what the future holds. Only a few beasts await to be tamed: Scleroderma, Sjogren's syndrome, the many-faced wolf (SLE), and the vasculitides.

Reza Mirza, MD, Rheumatology trainee,
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The Toronto Wellesley Hospital (1963-1998), a 40-bed Inpatient Rheumatology Ward: *A Reflection by Dr. Bookman*

Patients were brought in from all over Ontario, sometimes from the back of a barn, many times completely immobile. Patients would be admitted for several weeks.

They were brought to hospital for physiotherapy, occupational therapy, rehabilitation, medication management, reconstructive surgery, splints, springs, and slings. Everyday at noon, physiotherapy was conducted over the intercom and patients followed along in their beds.

There was a heated therapeutic pool. Immobile patients would be lifted in using a cradle. Hands were dipped in warm paraffin wax (heated using a double-boiler) to relieve AM stiffness prior to hand physiotherapy.

Rheumatology trainees would inject several joints at a time in each patient each day. The only drugs available were gold, NSAIDs, cortisone, and chloroquine. Chloroquine worked much better than hydroxychloroquine, but had higher rates of retinal toxicity and also caused corneal toxicity affecting night vision.

Arthritis + Patient: An App

By Manisha Mulgund, MD, FRCPC

Hello Readers!

My name is Manisha Mulgund. I am a rheumatologist in Hamilton, Ontario, with a keen interest in early inflammatory arthritis. Amid the chaos of 2020, the app that I've worked on for a few years was released!

I am excited to share with you "Arthritis + Patient," an app for self-monitoring and education specifically tailored to patients with rheumatoid arthritis (RA), ankylosing spondylitis (AS/SpA), and psoriatic arthritis (PsA).

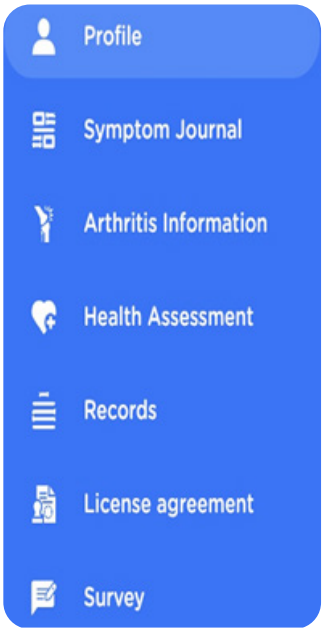
The diagnosis of inflammatory arthritis can be overwhelming and stressful for most patients. At the onset, our patients have to deal not only with the pain and the change in their quality of life (QoL), but also with complex medications and access to care. Once I recognized this pattern, I was motivated to find innovative ways to improve their experience.

Through patient surveys, I was able to understand the challenges they faced. With the inspiration and support of my patients, who gave me their valuable time and thoughts, the concept of the app was created. My goal was to provide a platform to further educate and support patients. This app is a start towards meeting that goal.

After years of work and multiple iterations, the free app for patients with inflammatory arthritis, "Arthritis + Patient," was released on both iOS and Android platforms.

Its key features are as follows:

- **Symptom Journal:** This journal serves as an up-to-date diary-like tool, with a camera, notes, and a dictation feature.
- **Health Assessment:** Depending on the disease, specific forms are available in this section. It includes a Functional Assessment (HAQ, BASDAI, or BASFI auto-calculated results with graphs); General Assessment, aka interim history, and a clickable Homunculus for marking tender joints.
- **Educational resources:** Patients can access audio files, written explanations of conditions, lifestyle recommendations, and additional websites for further information.
- **Record:** Patients can easily look back at their previous data such as assessment scores. This allows for increased convenience, as patients will simply have an all-in-one health wallet alternative to their charts and papers for their appointments.



Once downloaded, the app can be used anywhere at any time. Wi-fi connection is not required to complete the forms as the data is static and locally stored.

Here's how to use the app:

1. Download the free app.
2. Enter any number as your Demographic Number (could be a chart # or patient ID in the future).
3. Enter an e-mail address. Patients will have the option to share their records, at their own discretion.
4. Complete the rest of the profile by selecting one of the inflammatory arthritides.
5. At this point, the setup process is complete and patients are free to use any of the features. Once the profile is completed the health assessment feature becomes available to use.
6. Please fill out the survey form.

Using the information from the app at your patient's appointment is easy. Patients fill the health assessment section on the app prior to their scheduled appointments. During their visit, you ask them their scores and to highlight any specific notes they want to discuss within the app, allowing you to be focused and efficient. It saves time as the data is already available.

I hope that this app serves as an asset to both you and your patients in enhancing shared decision making. My mission statement is: Respect, Educate, Empower and Improve.

I am excited to be collaborating with my peers to bring a new section to the app called "Vaccines and Tests." Here, patients will be able to learn more about vaccines and create their own vaccine passport.

I am so grateful to everyone who has helped me during my journey towards creation of the app. I have interacted with some amazing people along the way.

I encourage you to download the app, explore it and share it with your patients. Together, we can do better and create an even greater impact on patient care. Connect with me at *specialistshamilton@gmail.com* for any questions or comments.

Manisha Mulgund, MD, FRCPC
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Bringing Patient Stories to YouTube: Violin MD

By Siobhan Deshauer, MD, FRCPC

Social media is strongly embedded in the fabric of society, giving rise to exciting opportunities to engage with patients and the general public on medical topics. Four years ago, I created a YouTube channel called "Violin MD," which aims to bring viewers "behind the scenes" in the healthcare system and introduce them to health topics. The public interest has been overwhelming with over 57 million total views and 780K subscribers to date.

Visit Dr. Siobhan Deshauer's YouTube channel "Violin MD" at *www.youtube.com/c/ViolinMD.*

With the permission of McMaster University and the Hamilton hospitals, I began filming my journey as an internal medicine resident. Videos about being on-call and collaborations with allied health professionals have been popular; however, the missing piece in the narrative was the patient perspective. I began collaborating with patients who were interested in sharing their experience with rare and chronic conditions.

My first interview was with Doug, a previously healthy man who had worked in a sheriff's department before being diagnosed with granulomatosis with polyangiitis (GPA). Doug described his clinical presentation and how he maintains a positive outlook on life. His wife Dot, a retired nurse, emphasized the impact a chronic life-threatening disease can have on family members, and her fear of Doug having a relapse.

After the video was published Doug reflected on the experience of sharing his story publicly. "I must say that I stepped out of my comfort zone to participate in the video. However, after reading the several hundred comments by viewers, I am very happy with the decision to do the video, as many people were apparently positively impacted." His rheumatologist also watched the video with interest and noticed a gap between Doug's perspective and the medical lens. "It becomes a more personal story… There are some elements that I didn't reflect on in our interviews as we focus more on the medical aspect of his treatment."

Dr. Deshauer interviewing Doug, a patient. To view the video clip visit *youtu.be/pazegLX4ob0.*

With 565 comments on the video to date, the public demonstrated empathy and awareness for those suffering with chronic illnesses, creating a community of patients, family members and health professionals. Many viewers identified with Doug and shared their personal stories with chronic illnesses. One 19-year-old shared his personal struggle, "I just found out I have a rare blood cancer… it's so hard not to know what your future holds… I'll definitely try to take on Doug's attitude of only focusing on what I can control." Just as patients identified with Doug's story, one physician viewer wrote "I have never seen an actual patient with GPA. This helps me to understand the disease and the patient's perspective better." And a medical student stated that it's "more impactful seeing the person behind the disease and hearing their story. It makes me want to study more!"

Creating videos and interacting with the public has benefitted me in ways I did not anticipate. Hearing a patient's story in the absence of time constraints and clinical decision making reminds me what it means to actively listen to a person—rather than a patient. The supportive comments I received after showing some emotional vulnerability reminds me that in the appropriate context, patients often want their doctors to express sincere emotions. My hope is that these videos play some small role in bridging the gap between medical experts and the general public.

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Paul Adam, MSW – *Addie Thomas Service Award*

The *Addie Thomas Service Award* is presented by the Association of Rheumatology Professionals (ARP) to a member who has been an active volunteer involved with local, regional, national, and/or international arthritis-related activities.

Recently retired, Paul began working at the Mary Pack Arthritis Program (MPAP) in 1989, first as a social worker and then in an administrative role. He has an extensive volunteer history with the Arthritis Health Professions Association (AHPA) and ARP. His work and volunteer activities have encompassed the study and/or implementation of projects related to patient advisory groups, patient-reported outcome measures, patient self-employment, eHealth tools, health professional eLearning, and communities of practice. He is currently the President-Elect of AHPA.

Dr. Ciarán Duffy – *CRA Master Award*

Dr. Ciarán Duffy, a pediatric rheumatologist, Professor and Chair, Department of Pediatrics, University of Ottawa and Chief, Department of Pediatrics, CHEO, and recipient of an *ACR Master Award* at the Annual Meeting of the ACR, November 2020, is the 2021 recipient of a *CRA Master Award*.

"It is a tremendous honour to be recognized by the CRA with a Master's Award and to join the list of former recipients, several of whom have been mentors to me, a very highly distinguished group," said Dr. Duffy. "I am truly humbled to be a recipient of this award."

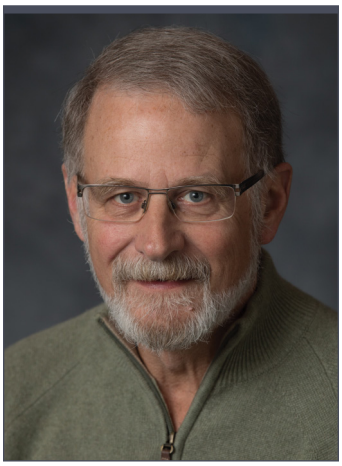
The *CRA Master Award*, newly created in 2019, is a high honour bestowed on members of the CRA, over the age of 65 years, who have distinguished themselves throughout their career in the field of rheumatology in one of clinical care, education, research and leadership. Dr. Duffy meets the bar in all four areas, having garnered significant national and international recognition for his scholarly contributions, throughout his very distinguished career. Congratulations to Dr. Duffy on receipt of this great honour.

Dr. Mary-Ann Fitzcharles – *CRA Master Award*

A career in rheumatology over the last 40 plus years has been a privilege and a joy. Reflecting on those years, as is custom at this time in life, many thoughts come to mind. I will therefore take the privilege of stepping outside the usual comfort zone and dare to note a few memorable persons and instances that I have encountered along this rheumatology road.

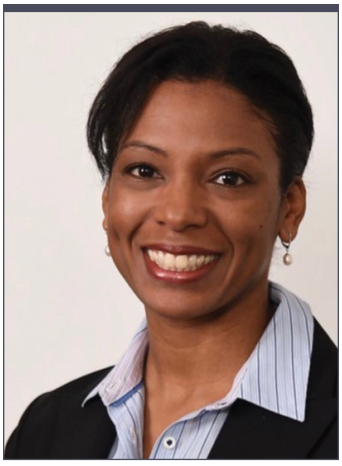
I am forever grateful to the late Prof. Derrick Brewerton of HLA B27 fame who was my advisor and friend in London, UK, and guided me in the direction of rheumatology; trembling in my shoes when Dr. Dafna Gladman was my oral examiner for rheumatology; Dr. John Esdaile, with his beautiful fountain pen script who edited our very early papers on fibromyalgia (FM), and told me that FM and pain could be a good career path; literally cutting and pasting a spread sheet on the dining room table with Dr. Matilde Boisset, (a fellow a quarter of a century ago), as we did the analysis of the first FM and sexual abuse paper; Dr Chris Pineau, my wise, knowledgeable and extraordinary boss; and oh so special, all the trainees who participated to bring our clinical studies to fruition…

And then for those amazing patients who I have had the privilege to follow over the years. Just to think of a few: I can still see the young woman with SLE admitted to a nightingale ward of 40 patients at Groote Schuur Hospital, Cape Town in the 1970's with only corticosteroids as a treatment; the lady farmer who was knocked off her bicycle and developed FM, prompting the concept of a pain condition triggered by an event…and so the story of FM unfolded over the next 20 some years; the delightful but totally non adherent 18-year-old student with RA, who is now a 50-year old delightful and totally adherent high school principal beautifully managed on a biologic; the 80 - year-old lady with RA who expressed her disappointment in me for not managing her pain adequately, until she slipped a few of her husband's pain pills; the home made cookies at Christmas with the one batch identified as "special", which I never dared taste: and the many patients who in so many ways have taught me the nuances of medicine, have contributed to teaching our students, and have advocated for the cause of rheumatology patients in Canada. It is with great humbleness that I thank the CRA for this award.



Dr. Jamie Henderson – *CRA Master Award*

Dr. Jamie Henderson, one of three recipients of the 2021 *CRA Master Award,* was a community-based rheumatologist for 35 years in Fredericton, New Brunswick. He has participated in CRA activities for many years and has served as a board member, treasurer, executive member and served as President from 2010 through 2012. He has also served on the board of the *Journal of the Canadian Rheumatology Association (CRAJ).* He is currently the President of the Board of the *Journal of Rheumatology.* He has assisted the Arthritis Society with fundraising and provided many community programs in New Brunswick and Prince Edward Island over the years. He was presented with the Queen's Diamond Jubilee Medal at the behest of the Arthritis Society in 2012. He was awarded the *Distinguished Rheumatologist Award* by the CRA in 2020. He is now retired and trying to improve his golf game in Fredericton.



Dr. Andrea Knight – *Mary Betty Stevens MD, Young Investigator Prize (Lupus Foundation of America)*

Dr. Andrea Knight is a pediatric rheumatologist at the Hospital for Sick Children, an Associate Scientist at the SickKids Research Institute, and Assistant Professor at the University of Toronto. The *Mary Betty Stevens MD, Young Investigator Prize* is given annually by the Lupus Foundation of America in recognition of the exceptional achievements of an investigator in the early part of his or her independent career in lupus research. Dr. Knight recently received the *Young Investigator Prize*, as the first pediatrician recipient, for her work investigating the burden of psychiatric morbidity, health outcomes and disparities, as well as strategies to improve comprehensive care for patients with childhood-onset systemic lupus erythematosus. She is also leading collaborative research within the Childhood Arthritis & Rheumatology Research Alliance (CARRA), as the current Lupus Section Vice-Chair and co-leader of the Mental Health Workgroup.

Dr. Anthony Perruccio – *Distinguished Scholar Award*

Dr. Anthony Perruccio was awarded the *American College of Rheumatology's Association of Rheumatology Professionals Distinguished Scholar Award*, presented to a member who demonstrates exceptional achievements in scholarly activities pertinent to arthritis and the rheumatic diseases. Dr. Perruccio is an epidemiologist and scientist at Schroeder Arthritis Institute, Krembil Research Institute, and associate professor at Dalla Lana School of Public Health, University of Toronto. His research focuses on identifying distinct subgroups in osteoarthritis in both clinical and population-based samples, with particular focus on multijoint involvement, comorbidity, systemic inflammation and sex differences. Dr. Perruccio also collaborates closely with the Arthritis Society in efforts to make arthritis data accessible and to increase awareness of the considerable burden of arthritis in Canada.

Survey Results: Vaccine Inequity

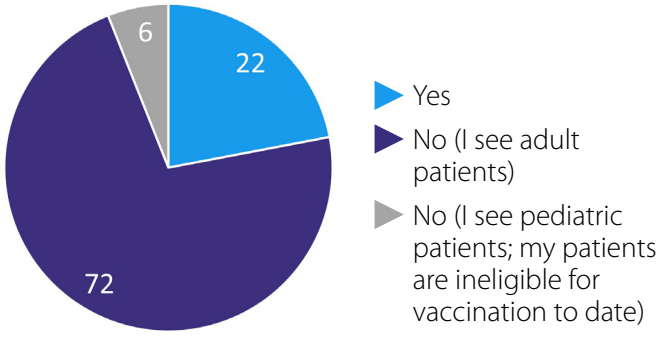
On behalf of the CRA Quality Care Committee

The pandemic has presented challenges to virtually every human on the planet. These have often been amplified in individuals with underlying health conditions. With COVID-19 vaccination underway across Canada, the focus of this issue's Joint Count survey is vaccine inequity. In February 2021, we reached out to CRA members to find out about their perspectives on vaccine inequity in Canada. There were a total of 102 responses received out of a possible 578. Many thanks to those who shared their experiences.

The primary question asked was the following: "To your knowledge, have any of your patients who have otherwise met provincial criteria for COVID-19 vaccination been denied it on the basis of their autoimmune disease and/or the medications used to treat it?" About 20% of respondents replied that they were aware of at least one instance of a patient being turned away. Of these, in most cases (90%), it was 1 to 5 patients, but 10% responded that they knew of 6-10 patients who were turned away.

Most of the patients turned away were women with rheumatoid arthritis on some form of disease-modifying anti-rheumatic drug (DMARD). Most rheumatologists were involved in some advocacy in this context. A recurrent theme which emerged from narratives provided was that patients were turned away because the vaccine was "not recommended" and "un-studied" in patients with rheumatic diseases, and that they must then provide documentation of their rheumatologist's support in order to obtain the vaccine. This, in turn, bred hesitancy among patients, not to mention material delay in receiving the vaccine at a time when cases were rising and variants of concern were proliferating.

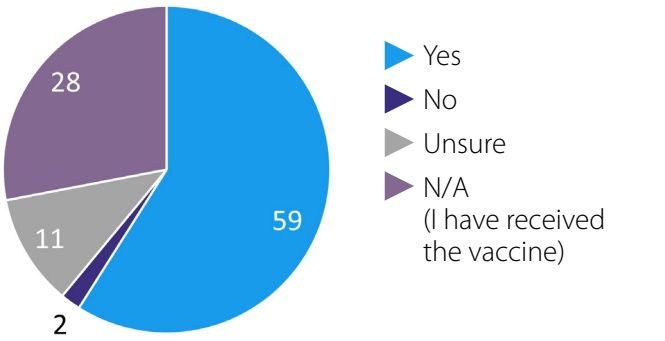
CHART 1:
Percentage (%) of rheumatologists who have had a patient denied the COVID-19 vaccination based on their autoimmune disease and/or the medications used to treat it (who otherwise met provincial criteria)



*February 2021

Furthermore, a similar survey was also sent out to rheumatology patients, in collaboration with the Canadian Arthritis Patient Alliance (CAPA) and the Arthritis Society, to ask about their opinions (in March and April 2021). Of the 112 responses, the majority (96%) were from women from Ontario (54%). Only half of respondents were eligible to receive vaccines at the time they responded. Only a few (~3%) reported being denied the vaccine. Evidently, with the self-selected group of respondents and a small sample size this reflects a sliver rather than a swath of the rheumatology patient experience.

CHART 2:
Percentage (%) of patients who intended to get COVID-19 vaccine as of April 2021



As COVID-19 vaccination is currently gaining momentum across Canada, and the criteria and news surrounding it are rapidly evolving, it is important to note that the observations from this survey may only reflect a specific slice in time.

These real-time observations can inform ongoing COVID-19 vaccine advocacy as we navigate the roll-out's twists and turns, and the impact it has had on patients with rheumatic diseases. More generally, these observations serve as a reminder of the role for continued timely and nuanced advocacy, such as the excellent work of the CRA Guidelines and Therapeutics committees, in collaboration with patient groups, through the pandemic and beyond

If you have any additional feedback for the CRA, please contact Sue Ranta at *sranta@rheum.ca.*

Updates from Ontario

News from Northern Ontario

By Sahil Koppikar, MD, FRCPC

Rheumatology care in Northern Ontario continues to evolve. Drs. Saara Rawn and Matthew Piche have set up permanent practices in Sault Ste. Marie and had full clinics within a few weeks! Most importantly, Saara had a little boy named Matti in September 2020!

In Timmins, Drs. Laurence Rubin and Simon Carette have retired from the area after 30 years of providing outreach clinics. Their outstanding care and commitment to the region will surely be missed. We are lucky to have recruited Dr. Medha Soowamber to the Timmins program, and we will continue to provide clinics every three months in addition to virtual consults. Dr. Maysam Khalfan, after graduating from UBC Rheum in 2020 and returning to Ontario, has enthusiastically set up outreach clinics in Kapuskasing and Hearst, where he will visit several times a year.

A distanced grad ceremony in June 2020, with a hockey stick basket to hand over diplomas along with a distanced hug.

Through the new ORA Northern Ontario committee, we are working to set up partnerships between interested rheumatologists and Advanced Clinical Practitioners in Arthritis Care (ACPACs) in Northeastern and Northwestern Ontario. We hope to leverage new virtual care skills that rheumatologists have developed over the pandemic to support northern remote and rural communities.

Hamilton Update

By Michelle Batthish, MD, MSc, FRCPC

Pediatric rheumatology in Hamilton has seen much growth in the past few years. Dr. Liane Heale was hired as the third pediatric rheumatologist in 2018, joining Drs. Batthish and Cellucci. Julie Herrington, an ACPAC-trained physiotherapist, is another welcome addition to our small but mighty group! Maddie Fyfe has also joined our team as a physiotherapist.

The pediatric rheumatology team has developed a new specialty clinic for children and adults with suspected autoinflammatory diseases in partnership with our allergy/immunology colleagues. We have also expanded our Transition to Adult Rheumatology Care Program with twice monthly transition clinics. Our multi-disciplinary team works to improve self-management skills with our patients using validated tools, including the MyTransition App.

News from Kingston

By Mary Clements-Baker, MD, FRCPC

In Kingston, the third wave is certainly challenging us as we see overflow from the Greater Toronto Area. We welcome new rheumatologist Dr. Emma Tang, a recent U.S. graduate, originally from the Kingston area! We are proud to note that our division chief, Dr. Mala Joneja, is the director of Diversity and Equity for Queen's Medical School. Dr. Tabitha Kung, and Dr. Tan Towheed and myself continue our Queen's positions. Dr. Henry Averns provides community teaching for our residents. Dr. Roberta Schellenburg provides community care. Dr. Anasstasiades is enjoying retirement but joins us for rounds. Here's to getting together in person soon!

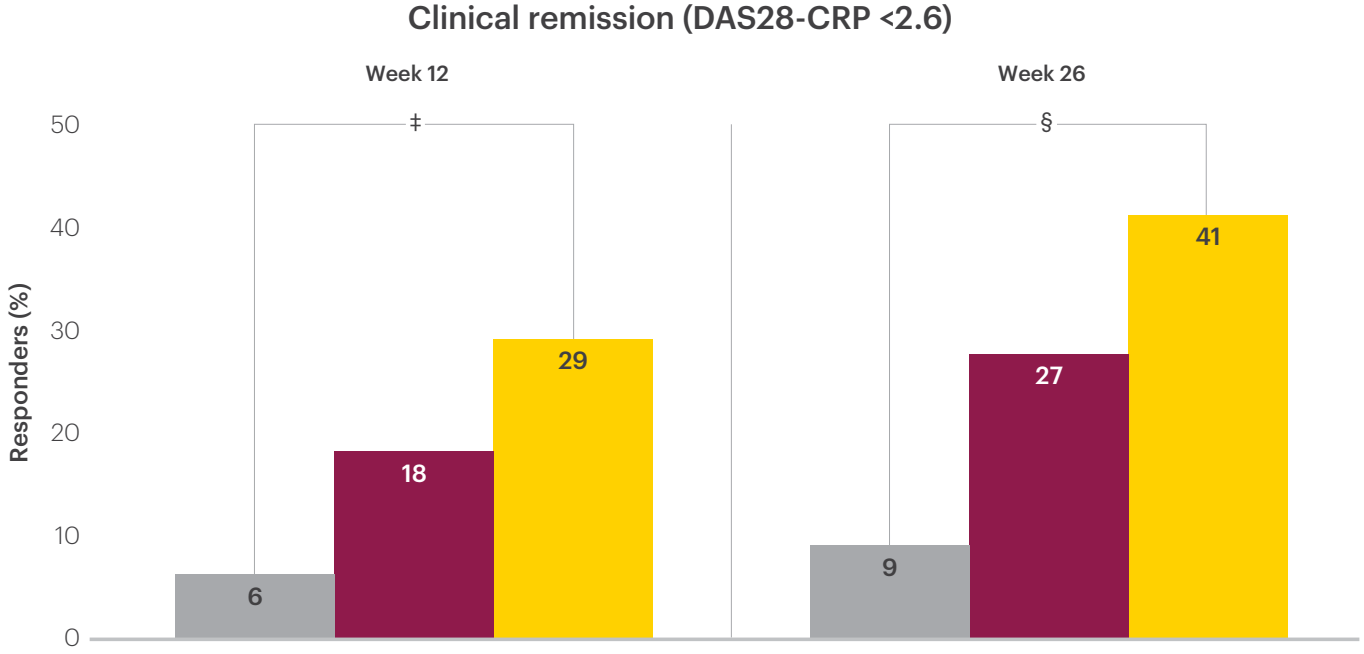
Pr RINVOQ® upadacitinib

REACH FOR RINVOQ

RINVOQ (upadacitinib) is indicated for the treatment of adults with moderately to severely active rheumatoid arthritis who have had an inadequate response or intolerance to methotrexate (MTX). RINVOQ may be used as monotherapy or in combination with MTX or other nonbiologic disease-modifying antirheumatic drugs (DMARDs).

Clinical remission (DAS28-CRP <2.6; secondary endpoint) shown in the SELECT-COMPARE trial at Weeks 12 and 26 in MTX-IR patients¶

From Week 14, non-responding patients on RINVOQ could be rescued to adalimumab, and non-responding patients on adalimumab or placebo could be rescued to RINVOQ in a blinded manner.



Adapted from the Product Monograph

‡ $p \leq 0.001$ RINVOQ vs. placebo comparison; included in multiplicity adjustment for overall type I error control.
§ $p \leq 0.001$ RINVOQ vs. placebo comparison; not included in multiplicity adjustment for overall type I error control.
¶ No conclusions can be drawn regarding the superiority of upadacitinib + MTX vs. adalimumab + MTX.

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MEMBER OF INNOVATIVE MEDICINES CANADA

REVIEWED BY PAAB

In a study of patients who had an inadequate response to MTX, those who received RINVOQ + MTX showed a mean change from baseline in HAQ-DI* of -0.6 vs. -0.3 in those who received placebo + MTX at Week 12 (secondary endpoint; $p \leq 0.001$).†

Clinical use not discussed elsewhere in the piece

RINVOQ should not be used in combination with other Janus kinase (JAK) inhibitors, biologic DMARDs, or with potent immunosuppressants such as azathioprine and cyclosporine.

Caution should be used when treating geriatric patients with RINVOQ.

Most serious warnings and precautions

Serious infections: Patients treated with RINVOQ are at increased risk for developing serious infections that may lead to hospitalization or death. Most patients who developed these infections were taking concomitant immunosuppressants such as methotrexate or corticosteroids. If a serious infection develops, interrupt RINVOQ until the infection is controlled. Reported infections include active tuberculosis (TB), which may present with pulmonary or extrapulmonary disease; invasive fungal infections, including cryptococcosis and pneumocystosis; and bacterial, viral (including herpes zoster), and other infections due to opportunistic pathogens. Test patients for latent TB before RINVOQ use and during therapy. Consider treatment for latent infection prior to RINVOQ use. Do not initiate treatment in patients with active infections, including chronic or localized infections. Carefully consider the risks and benefits of treatment prior to initiating therapy in patients with chronic or recurrent infections. Closely monitor patients for signs and symptoms of infection during and after treatment, including the possible development of TB in patients who tested negative for latent infection prior to initiating therapy.

Malignancies: Lymphoma and other malignancies have been observed in patients treated with RINVOQ.

Thrombosis: Thrombosis, including deep venous thrombosis, pulmonary embolism, and arterial thrombosis, has occurred in patients treated with JAK inhibitors, including RINVOQ, for inflammatory conditions. Consider the risks and benefits prior to treating patients who may be at increased risk. Patients with symptoms of thrombosis should be promptly evaluated and treated appropriately.

Other relevant warnings and precautions

- Increases in lipid parameters, including total, low-density lipoprotein, and high-density lipoprotein cholesterol
- Gastrointestinal perforations
- Hematologic events
- Liver enzyme elevation
- Patients with active hepatitis B or C infection
- Patients with severe hepatic impairment
- Concomitant use with other potent immunosuppressants, biologic DMARDs, or other JAK inhibitors
- Immunizations
- Viral reactivation, including herpes (e.g., herpes zoster) and hepatitis B
- Malignancies
- Increases in creatine phosphokinase
- Monitoring and laboratory tests
- Pregnant women
- Women of reproductive potential
- Breast-feeding
- Sexual health
- Geriatrics (≥65 years of age)

For more information

Please consult the Product Monograph at rinvoq.ca/pm for important information relating to adverse reactions, drug interactions, and dosing information which have not been discussed in this piece. The Product Monograph is also available by calling us at 1-888-704-8271.

* 20 questions; 8 categories: dressing and grooming, arising, eating, walking, hygiene, reach, grip, and activities. 0=best, 3=worst; data shown are the within-group LS means of change from baseline.

† Patients in SELECT-COMPARE had an inadequate response to MTX; those with prior exposure to ≤1 bDMARD (except adalimumab) were eligible (up to 20% of the total study number of patients) if they had either limited exposure (<3 months) or had to discontinue the bDMARD due to intolerability. Patients with moderate to severe active rheumatoid arthritis (N=1,629) were randomized to receive RINVOQ 15 mg + MTX (n=651), adalimumab 40 mg + MTX (n=327), or placebo + MTX (n=651). The presence of ≥6 tender and 6 swollen joints and evidence of systemic inflammation based on elevated high-sensitivity C-reactive protein was required at baseline.

MTX: methotrexate; HAQ-DI: Health Assessment Questionnaire Disability Index; DAS28-CRP: 28-joint disease activity score using C-reactive protein; IR: inadequate responder; LS: least squares; bDMARD: biologic disease-modifying antirheumatic drug.

Reference: RINVOQ Product Monograph. AbbVie Canada.

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XELJANZ is the #1 dispensed JAK inhibitor in Canada[1*]

Pr XELJANZ®
(tofacitinib citrate)

RHEUMATOID ARTHRITIS

PrXELJANZ®/PrXELJANZ® XR (tofacitinib) in combination with methotrexate (MTX), is indicated for reducing the signs and symptoms of rheumatoid arthritis (RA) in adult patients with moderately to severely active RA who have had an inadequate response to MTX. In cases of intolerance to MTX, physicians may consider the use of XELJANZ/XELJANZ XR (tofacitinib) as monotherapy.

Use of XELJANZ/XELJANZ XR (tofacitinib) in combination with biological disease-modifying anti-rheumatic drugs (bDMARDs) or with potent immunosuppressants such as azathioprine and cyclosporine is not recommended.

PSORIATIC ARTHRITIS

PrXELJANZ® (tofacitinib) in combination with methotrexate (MTX) or another conventional synthetic disease-modifying anti-rheumatic drug (DMARD), is indicated for reducing the signs and symptoms of psoriatic arthritis (PsA) in adult patients with active PsA when the response to previous DMARD therapy has been inadequate.

Use of XELJANZ in combination with biological disease-modifying anti-rheumatic drugs (bDMARDs) or with potent immunosuppressants such as azathioprine and cyclosporine is not recommended.

ULCERATIVE COLITIS

PrXELJANZ® (tofacitinib) is indicated for the treatment of adult patients with moderately to severely active ulcerative colitis (UC) with an inadequate response, loss of response or intolerance to either conventional UC therapy or a TNFα inhibitor.

Use of XELJANZ with biological UC therapies or with potent immunosuppressants such as azathioprine and cyclosporine is not recommended.

Consult the XELJANZ/XELJANZ XR Product Monograph at http://pfizer.ca/pm/en/XELJANZ.pdf for important information about:

- Contraindications during pregnancy and breastfeeding, and in patients with severe hepatic impairment.
- Most serious warnings and precautions regarding risk of serious infections, malignancies and thrombosis.
- Other relevant warnings and precautions regarding risk of infection and immunosuppression when co-administered with potent immunosuppressants, women of reproductive potential, hypersensitivity reactions, risk of viral reactivation, being up to date with all immunizations in accordance with current vaccination guidelines, live zoster vaccine, risk of malignancies, lymphoproliferative disorder, and nonmelanoma skin cancer, risk of lymphopenia, neutropenia, anemia, and lipid elevations, patients with hepatic and/or renal impairment, patients undergoing hemodialysis, liver enzyme elevations, patients with pre-existing severe gastrointestinal narrowing that are administered XELJANZ XR, patients with a risk or history of interstitial lung disease (ILD), pediatric patients, the elderly and patients with diabetes, patients with a history of chronic lung disease, lymphocyte counts, Asian patients, patients with risk of gastrointestinal perforation, increases in creatine kinase, decrease in heart rate and prolongation of the PR interval, patients that may be at an increased risk of thrombosis, patients with symptoms of thrombosis and dosing considerations in patients with ulcerative colitis (use XELJANZ at the lowest effective dose and for the shortest duration needed to achieve/maintain therapeutic response).
- Conditions of clinical use, adverse reactions, drug interactions and dosing instructions.

The Product Monograph is also available through our medical information department. Call 1-800-463-6001.

For more information, contact your Pfizer representative.

JAK = Janus kinase; PsA = Psoriatic arthritis; RA = Rheumatoid arthritis; UC = Ulcerative colitis
* Comparative clinical significance is unknown

References: 1. Pfizer Inc. Data on file. 2020. **2.** Pfizer Canada ULC. XELJANZ/XELJANZ XR Product Monograph.

PP-XEL-CAN-0640-EN