

CRAISCR

The Journal of the Canadian Rheumatology Association



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Freedom 55

By Philip A. Baer, MDCM, FRCPC, FACR

*“Give me your answer, fill in a form
Mine for evermore
Will you still need me, will you still feed me
When I’m sixty-four?”*

- Lennon-McCartney, “When I’m 64”, *Sgt. Pepper’s Lonely Hearts Club Band*, 1966.

Sitting in my office, seeing a steady stream of patients, I feel a gratifying sense of control and mastery most of the time. I have been doing the same work for over 25 years. A lot has changed: gold replaced by methotrexate (MTX) and biologic therapies, paper charts replaced by electronic medical records (EMR), and my stand-alone Atari computer with no hard drive replaced by a state-of-the-art dual-monitor computer setup linked to the entire world. I have seen patients with all but the rarest rheumatic conditions, and can confidently manage the common conditions of our specialty. I believe my office is organized for efficient and compassionate care of my patients.

However, I recognize that one of life’s coping mechanisms is self-delusion. Perhaps all is not as good as it seems to me. With 25 years under my belt, I have also reached the age of 55. The mirror shows thinning and greying hair, bifocals, and an expanding waistline. Senior citizen’s discounts are now mine to enjoy at Shoppers Drug Mart. Surely my brain is still functioning like a well-oiled machine?

Maybe not. The April 9th issue of *The Medical Post*¹ contained a feature on aging physicians; a 95-year-old surgeon still in practice was among those featured. Dr. Elizabeth Wenghofer of Laurentian University in Sudbury indicated, however, that “doctors’ sharpness begins to decline at age 55 (Oh no!). As doctors age, we do see trends on poorer performance; the research is consistent.” It gets worse; the article goes on to report that “older doctors are particularly weak in the area of chronic disease management. It is harder for older doctors to keep up with cutting-edge practices. In acute condition management and diagnosis, they do fine.”

And here I thought I was doing particularly well with my chronic inflammatory disease patients. I have gone from “gestalt” to composite disease outcome measures, treat-to-target, and compliance with CRA, American College of Rheumatology (ACR), and European League Against Rheumatism (EULAR) guidelines. Am I supposed to now focus on acute gout, acute regional pain syndromes, and the like? At least there are new guidelines for gout² I can rely on as my cognitive function declines.

Perhaps I can maintain my cognitive abilities through other means. I do exercise regularly, read copiously, and do the occasional crossword puzzle and Sudoku. I even have a *Brain Age* training program on an old Nintendo DS. Unfortunately, research published online in *Canadian Medical Association Journal (CMAJ)*³ one week after the *Medical Post* article, from geriatric researchers at St. Michael’s Hospital and the University of Toronto, cast doubt on those measures too. A literature review indicated “no consistent evidence that drugs, herbal products, or vitamin supplements can keep memory loss at bay.” Well, at least I am not wasting money on ginkgo, vitamin B6, omega-3 fatty acids, and dehydroepiandrosterone (DHEA). In the rheumatology area, naproxen and celecoxib were studied in 2,500 patients over three years and showed no improvement in memory scores. Evidence of benefits from physical exercise was weak. Benefit from mental exercises was noted, but only based on studies involving training programs not available outside of research settings. The lead researcher, Dr. Raza Naqvi, did recommend mental

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stimulation, including Sudoku and crosswords, but admitted “that is not evidence-based.”

Then how about “Freedom 55”, the advertising slogan developed in Canada by London Life to symbolize retirement at that age? It turns out that was always a pipe dream, according to demographer David Foot of *Boom, Bust and Echo*⁴ fame. The average retirement age in Canada is actually 62. The marketers who dreamt up Freedom 55 now admit that it really was not about retirement, but giving people choices about the things they want to do when they reach that age.

Well, I choose to continue practising rheumatology, while hoping *The Medical Post* research either does not apply to me, or passes unnoticed by the regulatory College in my province. Maybe my new EMR will compensate for any cognitive issues. Meanwhile, I note the wisdom of the Beatles, as cited above:

“Give me your answer, fill in a form

(MD-HAQ from www.rheuminfo.com)

Mine for evermore

(No other rheumatologist wants to poach my patients)

Will you still need me, will you still feed me

(Yes, because you have chronic disease and I still get paid to look after you)

When I’m sixty-four?”

(Freedom 55 was a myth, I just signed another five-year office lease and invested in EMR. I still like what I do).

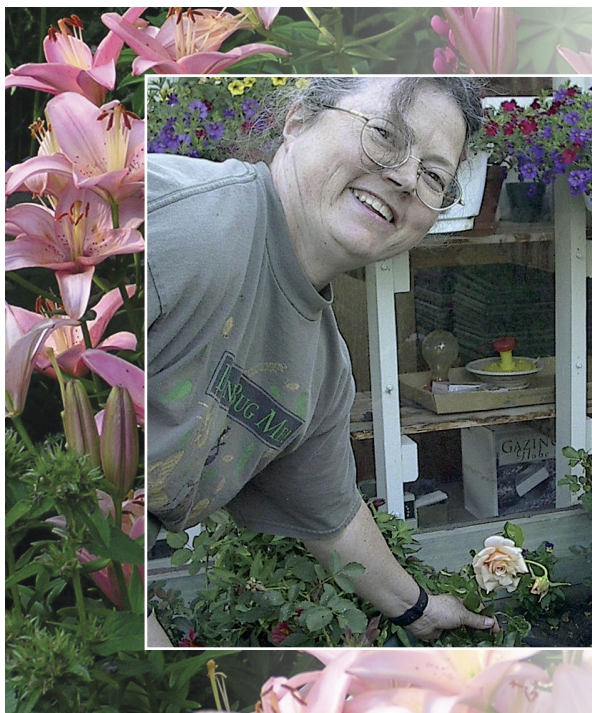
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It is with great sadness that we share the news of the passing of Dr. Janet Markland (1948 - 2013).

Dr. Markland was an honoured member of the CRA Board and the CRAJ Editorial Board.

A full tribute will be featured in the Winter 2013 issue of the CRAJ.

AWARDS, APPOINTMENTS, AND ACCOLADES



As an internationally known leader in ankylosing spondylitis (AS), Dr. Robert Inman's accomplishments are extensive. He is the Director of the Arthritis Centre of Excellence at Toronto Western Hospital, where he is also Director of the Spondylitis Program. He was one of the leaders behind the creation of the Canadian Spondyloarthritis Research Consortium of Canada (SPARCC). He is Deputy Physician in Chief for Research at University Health Network and is Professor of Medicine and Immunology at the University of Toronto.



A respected advocate and consumer champion for arthritis research since his own diagnosis with rheumatoid arthritis (RA), Mr. Jean Légaré's leadership with organizations from The Arthritis Society (TAS) to the Canadian Arthritis Network (CAN) has helped pave the way for arthritis consumers to have a strong voice at the table.



The current holder of the Mary Pack Arthritis Chair in Arthritis Research, Dr. Diane Lacaille is a prominent advocate of health consumers' rights and a leader in research on work and health. She developed the first comprehensive program specifically designed to prevent work disability in employed people with inflammatory arthritis (IA).



A leading volunteer and advocate for arthritis issues, Mr. Daniel Longchamps has been an outstanding supporter and spokesperson for The Arthritis Society (TAS). Together with his daughters, Tracy Reid and Laura Moses, he continues to model positive empowerment for Canadians living with rheumatoid arthritis (RA).



Respected clinician and educator, Dr. Dianne Mosher can number among her many contributions to Canada's arthritis community her Past-Presidency of the CRA, and her role as one of the leaders behind the creation of the Arthritis Alliance of Canada (AAC).



Respected clinician and educator Dr. Rachel Shupak has been at the forefront of study into myopathy, and the relationship between arthritis and haemophilia. Dr. Shupak has been the driving force behind the creation of the innovative Advanced Clinician Practitioner in Arthritis Care program (ACPAC), which raises the standard for training physiotherapists and occupational therapists in the field of arthritis care.

AWARDS, APPOINTMENTS, AND ACCOLADES

The *CRAJ* would like to recognize the contributions of its readers to the medical field and their local communities.

To have any such awards, appointments, or accolades announced in an upcoming issue, please send recipient names, pertinent details, and a brief account of these honours to katiiao@sta.ca. Picture submissions are greatly encouraged.

Using EMRs to Connect with Patients in Daily Rheumatology Clinical Practice

By Vandana Ahluwalia, MD, FRCPC

The paperwork was signed and the funding in place; we tied the knot in December 2011 and there was no turning back. The electronic medical record system (EMR) was loaded onto the Macs in each of the exam rooms and we were ready to go. The next task was to plan a division of labour: as long as we each understood what the other was capable of, the process was going to go well. Over the next six months, we engaged in a tug of war, and finally started to understand each other's potential, so that a mutually respectful dialogue could ensue.

Through the Ontario Rheumatology Association's (ORA) work with the EMR vendors, I now have the tools to create rheumatology-specific patient records with clickable homunculi, automatically calculated disease activity scores, and the ability to trend data over time in order to treat to target. In addition, data entered is pulled from my charts and partially prepopulates electronic case-report forms (eCRFs) which push data into the registries that my patients have agreed to participate in.

The most time consuming work, however, is entering data into the EMR in a standardized way. I have realized that there is great potential in patient information derived straight from the source. Therefore, I started to think about all the ways that the patient could input data directly into their own record, with confirmation at the time of the medical visit. Patients could go online before attending appointments, they could input data in the waiting rooms using patient kiosks, tablets, or iPads, or they could input data on the computer terminal while in the exam room.

The patients could answer many of the routine questions asked in an encounter in advance, thus allowing more time for enhanced doctor-patient communication. Some of these questions include the Health Assessment Questionnaire (HAQ), and the patient-reported outcomes (PROs) that are needed to calculate various disease activity scores such as Disease Activity Score-28 (DAS28), Clinical Disease

Activity Index (CDAI), Simplified Disease Activity Index (SDAI), Patient Activity Score (PAS), and Routine Assessment of Patient Index Data 3 (RAPID3). Patients could also enter health status updates to include recent hospitalizations, recent surgeries, new non-rheumatologic medical diagnoses, changes in medications, intercurrent infections, and side effects of anti-rheumatic therapy.

For many years now in my practice, a new patient booking is arranged by mail. The patient receives an appointment letter with the consultation time, date, and location. The mailing also includes a Medical History form that the patient fills out in advance, in the comfort of their own home with available resources including their pill bottles and family members to capture the necessary information. It has been my experience that patients can accurately document their medical information. In the EMR era, however, this document remains a scanned paper document and not a living profile, which is what it should eventually become.

Whether it be adding to an online cumulative clinical patient profile (CPP), or a PRO necessary for an upcoming medical visit, we need to start engaging patients in making use of technology that is going to help improve their chronic disease outcomes and their overall health status. In the not too distant future, we will be able to communicate with our patients in virtual environments that send them educational material, various reminders for medications, appointments, and blood work that is due, and allow them to access their medical records in a patient-friendly format. The possibilities are endless and only require our vision to engage those who will help us implement them.

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Past-President, Ontario Rheumatology Association
Chair, ORA Models of Care and EMR Committees
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Use of Technology and Medico-Legal Issues

By The Canadian Medical Protective Association

The digital universe continues to grow in size and complexity, with new platforms and channels of communication developing at a rapid pace. While many of these technologies offer potential benefits and efficiencies for healthcare, physicians should be aware of the associated benefits and risks.

There are three main communication channels that are currently being used by physicians and their patients: email and texting, web or patient portals, and social media platforms. These channels are accessed from a variety of computer devices, with mobile tools such as smartphones and tablets seeing the greatest growth. Physicians need to assess the medico-legal risks of each channel and platform before deciding on use.

Despite email technology being almost two decades old, physicians may only now be incorporating its use into their daily practice. Physicians interested in using email technology should give consideration to privacy obligations, medical regulatory guidelines, and the information being sent. As well, patients need to be informed of how email communication will be used by their physician. For example, a simple email might be used for booking or confirming appointments. If email communication is to be used more extensively, patients will need to know and provide consent by means of a signed consent form detailing the nature of the email exchanges. The Canadian Medical Protective Association (CMPA) has published the detailed article *“Using email with your patients — Legal risks”*,¹ which is available on our website.

Physicians may also be exploring the use of patient portals and the online sharing of health information with

their patients. Portals can house administrative information or patient profiles and medical records. They can contain patient education documents, generate alerts and reminders related to prescriptions and medication management, allow for efficient booking of appointments, as well as enable quick transmission of test results and follow-up messages to patients. Again, privacy and the security of messaging via patient portals are paramount. Patients and physicians must feel confident that communication and records are secure. For an in-depth discussion of this issue, consult the CMPA publication on *“Privacy and a wired world — Protecting patient health information”*.²

Canadian physicians may also be making use of sites such as Twitter, LinkedIn, and Facebook. While social media's potential for medical educational purposes and knowledge sharing is vast, online exchanges can raise issues related to professionalism, ethics, and privacy. The line between professional and personal is easily blurred on social media. These platforms should be treated as virtual public spaces; all information contained there should be dealt with carefully and conscientiously, recognizing the public nature of the forum. The CMPA recently published *“Technology unleashed — The evolution of online communication”*,³ an article which helps to identify potential medico-legal risks related to the use of social media.

While these technologies hold the potential for increased efficiencies, physicians and healthcare providers need to be aware of both the benefits and the pitfalls before deciding whether these new tools are appropriate in their practice. When in doubt about the use of new technologies and of social media, members



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should not hesitate to call the CMPA for advice or guidance.

The CMPA provides advice, legal assistance, and risk-management education to more than 86,000 member physicians.

A valuable contributor to the Canadian healthcare system since 1901, the CMPA works with members to reduce risk in their medical practice, and is firmly committed to protecting the professional integrity of physicians and promoting safer medical care.

Suggested Readings

1. The CMPA. Using email communication with your patients: legal risks. Available at: www.cmpa-acpm.ca/cmpapd04/docs/resource_files/infosheets/2005/com_is0586-e.cfm
2. The CMPA. Privacy and a wired world—Protecting patient health information. Available at: www.cmpa-acpm.ca/cmpapd04/docs/resource_files/perspective/2011/04/com_p1104_4-e.cfm
3. The CMPA. Technology unleashed—The evolution of online communication. Available at: www.cmpaacpm.ca/cmpapd04/docs/resource_files/perspective/2012/02/com_p1202_1-e.cfm

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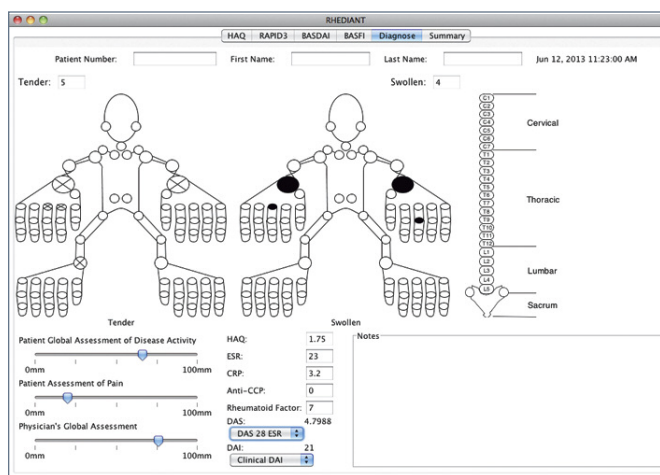
Rhediant Diagnostic Software

By Andrew Chow, MD, FRCPC

Every rheumatology trainee probably remembers “The Stamp” that we used for our homunculus during our rheumatology training. In the mid-2000s, physicians were becoming more computerized and were looking to minimize paper use, both for convenience and to be environmentally friendly. Furthermore, electronic medical records (EMR) were making their way into physicians’ offices. At that time, most of the diagnostic tools physicians were using to assess rheumatoid arthritis (RA) were in paper format. All calculations had to be done manually, which was

very time consuming; as a result, physicians were not using most of the assessment tools available.

There was a real need to create an electronic format including a homunculus and other assessment measures, which could automatically calculate the Disease Activity Score (DAS), Simplified Disease Activity Index (SDAI), Clinical Disease Activity Index (CDAI), and Health Assessment Questionnaire (HAQ) scores. With a simple and fast calculation tool, more physicians would make use of the scores and patients would benefit from having a better assessment of their disease. Adjustment to patients’ treatments could be implemented more rapidly, when required.



The homunculus on the *Rhediant* software.

Development

In 2007, I compiled the content for the *Rheumatology Diagnostic Analysis Tool (Rhediant)* and approached Bristol-Myers Squibb for support to develop electronic software, which would automatically calculate the DAS, CDAI, SDAI, and HAQ. A few summer students worked on the tool and their work was presented at our CRA annual meeting. Bristol-Myers Squibb helped with the logistics and support, while the University of Waterloo developed the software.

By the end of 2008, we unveiled this new tool and found it to be very well received by rheumatologists across the

country. It was a very promising start! This tool travelled around the world internally within Bristol-Myers Squibb, as an example of true innovation and real collaboration, resulting in positive impact within the rheumatology community. A second version was developed to integrate a few updates and to improve upon its user-friendliness. To meet the needs of the rapidly evolving computerized world, an iPad application was also developed. The application was approved by Apple and was made available on the App Store for free download.

A large number of rheumatologists in Canada are using the *Rhediant* tool for their patients, thus measuring important disease assessment scores they would have utilized in the past. Truly, the people who benefit the most from this software are the patients. *Rhediant* can be downloaded via the CRA website at www.rheum.ca/en/education/educational_resources.

Program Attributes

The *Rhediant* tool is extremely easy to use; the graphics and layout are appealing and convenient for the users. The electronic file is small and takes only moments to

install on a computer. All calculations for the DAS, CDAI, SDAI, and HAQ can be done quickly.

With *Rhediant's* popularity and the increasing use of EMRs, the program was copied and re-created by each EMR company to create their own electronic homunculus. This is built right into the EMR and thus becomes much more convenient for physicians who use EMR.

Next Steps

Since the *Rhediant* iPad tool is not able to push results directly into an EMR, the next steps would be to assess modifying the software to render it compatible with other tablets beyond the iPad. It would then be easier to make the connection between a tablet and the EMR. Stay tuned for future developments!

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Mobile Apps for Your Practice

By Steven J. Katz, MD, FRCPC

Did you know Google will be turning just 15 years old this year? Technology has changed our world with the advent of the internet and, more recently, a mobile revolution. In the world of rheumatology, we are just beginning to appreciate and utilize these new opportunities. One area of interest that is often raised is smart-phone apps. Using the Apple App Store as an example (though many of these apps are available for the growing Android environment, too), a recent search found only 21 apps using the term “rheumatology”; this number increased to 45 when searching for “arthritis”. With a focus on those available for free, here is a run-down of some apps physicians or patients may find useful.

1. Anatomy

There are a number of musculoskeletal (MSK)-focused apps where you can show your patients what may be wrong with their joint. *KneeDecide*,¹ *ShoulderDecide*,² and *SpineDecide*³ describe and illustrate each condition, discuss symptoms and findings, and provide best-practice treatment recommendations. *Virtual Bone Model*⁴ allows you to show patients the functioning of normal, arthritic, and replacement knees, hips, and shoulders.

2. Disease Activity Score (DAS) Calculators

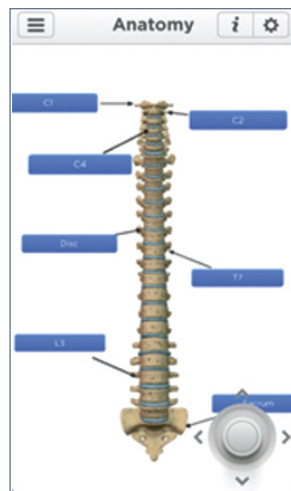
There are a number of good options available, depending on whether you want access to a homunculus or other input formats. *ReumaMonitor*⁵ offers the homunculus

while the appropriately named *DAS28*⁶ app does not. *HAQdas*,⁷ an app out of Newfoundland, calculates patient Health Assessment Questionnaire (HAQ) scores, and a variety of homunculus-based disease measures. *RAVE*,⁸ from the Johns Hopkins Arthritis Center, allows for the calculation of a number of disease activity measures, including DAS28, Clinical Disease Activity Index (CDAI), and Simplified Disease Activity Index (SDAI). It also provides some patient-level education, and will allow the physician to save historical patient DAS scores in a password-protected environment.

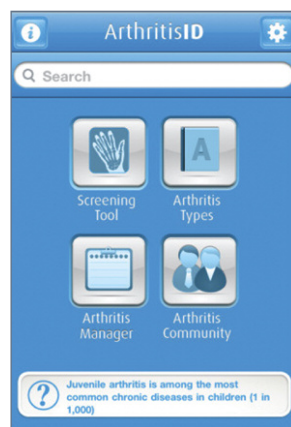
3. Educational Tools

*RAPID*⁹ is an educational tool with information presented in video and text format, useful to share with both primary-care physicians and new rheumatoid arthritis (RA) patients. Similarly, *ArthritisID*¹⁰ and *ArthritisID Pro*,¹¹ published by Arthritis Consumer Experts (ACE) from Vancouver, informs a similar audience by going through physical exam manoeuvres; it also has a screening tool which suggests the risk of the patient having inflammatory arthritis (IA).

4. Ankylosing Spondylitis (AS) *iAnkylosingSpondylitis*¹² is from an Australian/British group and provides videos on various stages of workup, diagnosis, and treatment of AS. Of particular use are the videos that demonstrate appropriate back exercises for patients.



SpineDecide app.



ArthritisID app.



10-Year Fracture Risk Assessment Tool app.

5. Clinical Information

For those of you currently using *UptoDate*,¹³ it offers a user-friendly app included at no extra cost. The app collects point-of-care information in a streamlined format. *Pill Identifier*¹⁴ is also a useful app that can help you identify the round red pill your patient is taking. Finally, Osteoporosis Canada has an app named *10 Year Fracture Risk Assessment Tool*,¹⁵ which not only has a 10-year fracture risk calculator, but also contains the 2010 osteoporosis guidelines, a review of therapeutic options, and more.

We are only just learning all the things a mobile world may be offer to help us improve clinical practice. With patients and learners embracing this technology, we too need to be aware of the options available to ensure the information remains accurate and current in the rapidly changing wide world of the web.

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RheumInfo.com

By Andy Thompson, MD, FRCPC, MHPE

I was asked to contribute an article about social media and medicine for this issue of the *CRAJ*. Though I have been involved with *RheumInfo.com* for the past 10 years, I pondered this request, unsure how *RheumInfo.com* fell into the world of social media. The definition of social media refers to the means of interactions among people in which they create, share, and exchange information and ideas in virtual communities and networks. *RheumInfo.com* does not have a typical virtual community, like Facebook, or a network such as LinkedIn, but it does create and share information, so it plays a role in social media.

Why, Where, and When Did *RheumInfo.com* Start?

In 2003, I was working in Richmond, B.C. with Dr. Kam Shojania and Dr. Barry Koehler. One day, I asked them if either had an information sheet on methotrexate (MTX). They did, but it was in need of a “refresh”; I decided to work with Dr. Shojania and Dr. Koehler to revamp the methotrexate content and add a few other medication sheets. I then started thinking, “if we don’t have up-to-date sheets in Richmond, then what about other rheumatologists?” The next idea was to create a website to post these resources online for other rheumatologists to use. Thus, in 2003, *RheumInfo.com* was born.

Like most websites, the initial stages were painfully slow. As I completed my Masters Degree in Health Professions Education, I focused on health literacy and came to realize the short-comings of the initial patient-information pamphlets. With this realization, *RheumInfo.com* has gone through a significant transformation both in terms of look and feel but also regarding its content. The site is run on the following principles:

1. Provide accurate, reliable, and honest information to both patients and physicians.
2. All content is written and reviewed by physicians or allied health professionals

who have intimate knowledge of the diseases and therapeutics.

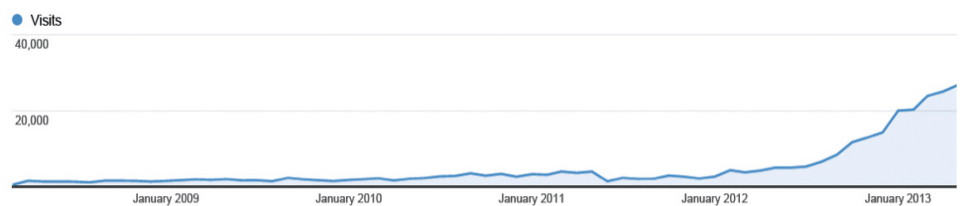
3. Written information is provided in a literacy sensitive manner aiming at a Grade 6-8 reading level.
4. Information, when possible, is presented in multiple formats to appeal to different learning styles (visual, aural, read/write, and kinesthetic).

RheumInfo.com has been fortunate to experience significant growth; we now consistently receive over 25,000 visits per month and have received over 300,000 visits since we started tracking in 2008. This has been really rewarding!

How Do I Use *RheumInfo.com* in My Clinic?

1. When I present a new medication to a patient I go through the online version of the pictopamphlet, which only takes two minutes to review. Following this, the patient is given a pictopamphlet to take home and encouraged to watch the video at their leisure.
2. When I am working with a patient to consider a new therapeutic option, I suggest they visit the website to learn more about potential choices.
3. Almost all patients begin treatment on subcutaneous MTX; I commonly use the online MTX injection instructional video to educate patients using this resource.
4. All of the patient support program forms and infusion orders for my patients are directly available from the website, and the disease information sections are used to better educate my patients.

RheumInfo.com is its own entity and it certainly could not be successful without hard work and the dedication and support of other individuals. It takes a ton of work to



Growing numbers of visits to the *RheumInfo.com* website each month.

keep this thing going! Project manager Mark Atkinson is instrumental in keeping our projects on track. Web-genius Kevin Firko helps us all to think outside of the box. Christina Clark is our magical medical writer who works closely with me during content development. Marlene Thompson, our allied health resource person, has been instrumental in the development of past and upcoming projects.

It takes considerable financial support to develop and continue to improve a website. This could not be accomplished without our generous sponsors. Over the years, a number of pharmaceutical companies have graciously provided unrestricted grants to help us continue to develop top-quality content.

Finally, *RheumInfo.com* would not be successful without you – the user. We are always open to new ideas for the site and are continuing to develop some exciting content.

What Can You Look Forward to in the Future?

1. Development of a new continuing medical education (CME) website to further educate rheumatologists and allied health professionals. This site is called *Rheumtalks.com*. It is up and running now; we are still working on content.

2. Continued expansion of our disease section of the site, and translation of everything into French.
3. Creation of a section discussing the gastrointestinal and cardiovascular risks of nonsteroidal anti-inflammatory drugs (NSAIDs). This might seem stale, however, this content is useful for your patients. I'm personally very proud of what we've done with this. This will be available soon.
4. Development of new sections on the importance of adherence to medications, and on pregnancy, lactation, and medications.
5. Further explorations into medication use in renal failure and dialysis.

We encourage everyone in the rheumatology community to continue to provide excellent ideas and suggestions. If you have any great resources you care to share, we can help facilitate this. Thanks again for all of your support!

Andy Thompson, MD, FRCPC, MHPE

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on behalf of the RheumInfo.com team.

Some Thoughts on Social Media

By Christopher Lyddell, MbChB(UCT), DA(SA), FCP(SA)

As healthcare providers, we are already navigating some major changes to our profession. Whether in first-world environments, academic settings, urban private practices or rural practices, clinical or non-clinical settings, the challenges before us all are huge. Patient expectations are changing. There is a move to non-Western practices and alternative therapies, plus the challenge of increasingly complex pharmaceuticals. We are faced with pressure to keep costs down, standards high and, above all, we are expected to always be up-to-date in our chosen area of expertise and beyond. There is increasing regulatory pressure in every aspect of our professional lives: our medical records are expected to be

electronic, and all aspects of our patients' dealings with us are now recorded in electronic format in conjunction with laboratory data. This data must be secure, which again prompts more regulations; data is often stored in cloud-based facilities by (hopefully) secure third-party software vendors and (hopefully) protected by the complex privacy laws that govern most of us.

With all this happening and with many aspects of our lives, from banking to investment portfolios to life history, being stored in the "cloud", why has the medical profession been so slow, and perhaps reluctant, to embrace social media? With over 700 million Facebook accounts, over 200 million Twitter accounts, and the explosion of

YouTube as a source of information on anything to everybody, there has to be potential benefit for all of us involved in healthcare.

As a rheumatologist practicing in a rural environment without immediate access to like-minded colleagues, I have embraced social media tools, not only as communication tools for personal use, but also to explore potential benefits in medical education, distribution of relevant information, and as a portal to keep in touch with patients. My initial concerns were the same as those I hear from most of my colleagues:

- I do not have time.
 - Time is a challenge, I agree; however, these tools can exist to help streamline our time and render us more efficient in our work.
- I cannot deal with an endless stream of tweets and posts coming to my phone or computer, I have enough trouble dealing with all the emails I receive!
 - Learning how to use the power of email can easily solve that problem: Through programs such as Outlook, Macmail, or Gmail (to name a few), emails can be filtered and smart mailboxes set up to organize your communications per pre-set criteria (e.g., urgent, follow-ups, queries, etc.).
- Tweets, Facebook posts, and emails demand immediate replies; I do not have that option.
 - Tweets and posts do not have to be answered immediately; they can be stored on your computer, tablet, or smartphone and reviewed at your leisure. There are different types of accounts that can be created depending upon specific needs.

The technology is available; we just have to spend a bit of time getting to know it and use it to suit our requirements! So, let us look at a typical scenario, which may help one to see the potential benefit of such technology.

We all feel burdened by the amount of information that comes to us, whether as a general practitioner, specialist educator, or clinician. However, think of how many journals you subscribe to, at what cost, and how often is the content you read even relevant to your practice? Using Twitter, for example, you can follow users within your specific area(s) of interest. When you receive a tweet (which, remember, is no more than 140 characters), it announces in a very precise format information that is relevant to you. From that tweet, there may be a link to the journal article to which you subscribe or to another source. Imagine, rather than reading an entire

article to determine its relevance, you receive the following: “Community infection profiles, infectious disease outbreaks in local schools”. Clear, concise, helpful. Notifications of meetings from your professional society could be sent as a tweet, announcing congresses and availability of relevant audiovisual presentations.

I follow most of the rheumatology societies that have Twitter accounts, and there is no doubt the information coming out is becoming far more focused and relevant. I also follow a number of universities that have Twitter accounts and receive valuable links to teaching material that is of relevance to my practice. As such, I am able to avoid the time spent wading through the pile of journals I am expected to read each month, in print or online!

Another resource that is of increasing importance to me has been YouTube. There is a paucity of rehabilitative services in my area and for patients to get to a physiotherapist means a long wait, time off work, and often a very short consult. On YouTube, there exist hundreds of very good videos outlining, in detail, various rehabilitation techniques presented by skilled professionals. Obviously, it is up to us to review such information for our patients, but it is out there and can be a great resource where manpower is short.

Access to patients in rural areas has traditionally been difficult, and telemedicine suffers from many problems, including scheduling, technical factors, and time. The use of immediate two-way video facilities such as Skype, Google chat, and others needs to be explored as a way for rural doctors to have immediate access to tertiary facilities and specialists in times of urgent need. Such applications can run on virtually any smartphone, tablet device, and computer, making the technology immediately available.

With regards to interpersonal communication, more difficult issues arise when using social media to communicate with patients. Patients understandably desire easier communication with their healthcare providers. However, we physicians are under time pressures and must always remain cognizant of not trading communication quantity for quality. The use of social media here needs to be carefully explored; there are issues of confidentiality, consent, data integrity, and credibility that must be satisfied before this technology can be considered in most medical settings. The potential to provide easily accessible information to patients on such forums is indeed exciting and challenging; educational videos,

relevant information on medical disorders, notifications from a medical practice about changes in the practice, appointment scheduling, and appointment reminders are just a few of the many potential options.

I have no doubt there are many challenges, including implementation, cost, and regulation, to name but a few, that are going to have to be overcome. Considering the way that social media has impacted most of our lives to date, however, it would appear the tipping point has long since past! I would suggest we as rheumatologists look

carefully at this exciting modality and explore best how it can best improve the way we practice our specialty and benefit our patients.

As Albert Einstein said, "Imagination is far more important than knowledge". Let us imagine what changes can be made in the field of social media and medicine.

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Patient Communication via *MyDoctor.ca*

By Kam Shojania, MD, FRCPC

I have a website for my clinical practice through the Canadian Medical Association (CMA). This website is www.mydoctor.ca/drkamshojania. In general, *MyDoctor.ca* helps patients prepare for their visit, by:

- Reducing phone calls and improving office efficiency: patients can go to the website, find out the hours, find out the location of my office, and decide whether they are going to drive or take transit.
- Providing a little bit of information on what to expect from a consultation. The website reminds patients to bring something to change into or that they can use an examining gown.
- Providing some useful resources for patients to find more information on various conditions.
- Describing my office staff and myself and offering a general overview about rheumatology.

MyDoctor.ca also includes a form that the patient can fill out ahead of time with their basic information, such as past medical history, medications, allergies, and a small pain diagram.

I do not yet have a mechanism where patients can email me and ask questions, although I am looking into

mydoctor.ca

Dr. Kam Shojania

this for the future. In addition, I would like my electronic medical records (EMRs) to allow patients to log in and book/confirm their appointments, with the EMR providing automatic text-message confirmation.

With regards to social media, I use LinkedIn for communicating with physicians around the world, as well as other health professionals and

non-health professionals. I am not sure how this is going to evolve. At the moment, I communicate by distributing interesting papers of general interest and news articles, as well as occasional editorial opinions.

I do not have a Facebook page for various reasons, but I am considering having an office Facebook page in the future. I think that the use of social media for medical information is going to increase, and I am curious to see where this leads.

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Head, Vancouver General Hospital and St. Paul's Hospital
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UBC Postgraduate Program Director
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Abraham Shore Memorial Lectureship

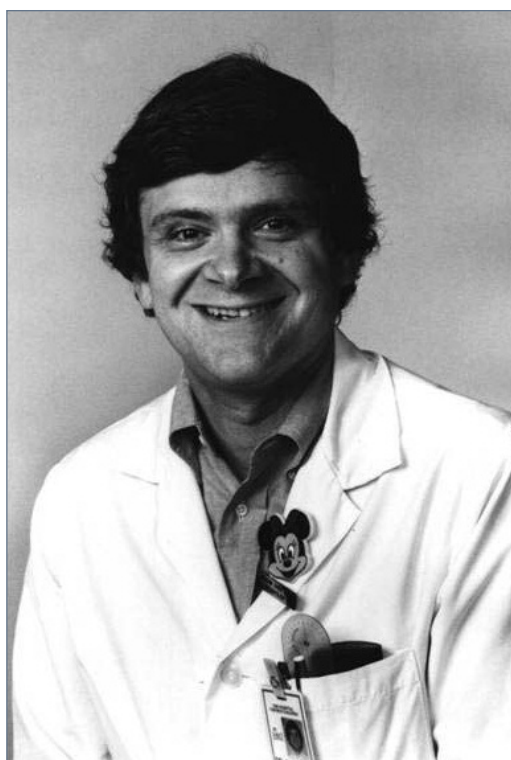
By Ronald M. Laxer, MDCM, FRCPC

This year marks the 20th anniversary of the Abraham Shore Memorial Lecture. This lecture was established by the friends and family of the late Dr. Abraham Shore, to ensure that Abe's name remains associated with excellence in pediatric rheumatology.

Abe was born in Germany in 1946, and his family immigrated to Vineland, New Jersey, in 1950. Abe graduated from the University of Pennsylvania School of Medicine in 1972. He came to Toronto to do a residency in pediatrics, which was followed by a fellowship in pediatric immunology. Abe then went to spend a year with Dr. Barbara Ansell, pioneer in pediatric rheumatology, in the United Kingdom; he then spent a year in the division of adult rheumatology at the University of Toronto.

Abe was the first pediatrician to be certified in rheumatology by the Royal College of Physicians and Surgeons of Canada. He quickly established a strong reputation, both clinically and as a basic scientist, with ongoing peer-reviewed funding from the Medical Research Council of Canada (now the Canadian Institutes of Health Research [CIHR]), The National Cancer Institute (NCI), and The Arthritis Society (TAS). In addition to his outstanding contributions to clinical care and basic research, Abe was recognized as a skilled educator.

Despite suffering from a chronic disease all his life and struggling to establish the specialty of pediatric rheumatology in the country, Abe never complained. He was an absolutely wonderful role model for his patients, students, and colleagues. Abe's death in 1991 left a tremendous void in our specialty. In order to ensure that his strong legacy continues, the Abraham Shore Memorial Lectureship was established in 1994. It is delivered annually and rotates through various medical schools across Canada, while being held in Toronto on alternate years. As can be seen from the



list of the lecturers, it is obvious that the goals of the lectureship are being met.

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Staff Rheumatologist, The Hospital for Sick Children,
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Abraham Shore Memorial Lecturers

Year	Lecturer	Host
2013	Adam Huber Dalhousie University	University of Sherbrooke
2012	Berent Praaken University of Utrecht	University of Toronto
2011	Raphaella Goldbach-Mansky National Institutes of Health	University of Manitoba
2010	Lucie Wedderburn University College London	University of Toronto
2009	Ross Petty University of British Columbia	University of Alberta
2008	Ann M. Reed Mayo Clinic	University of Toronto
2007	Ciarán M. Duffy McGill University	Queen's University
2006	Fabrizio De Benedetti IRCCS Ospedale Pediatrico Bambino Gesù	University of Toronto
2005	Helen Emery University of Washington, Seattle	Dalhousie University
2004	Robert A. Colbert University of Cincinnati College of Medicine	University of Toronto
2003	Maria V. Pascual University of Texas, Southwestern Medical Centre	University of British Columbia
2002	Taunton R. Southwood University of Birmingham	University of Saskatchewan
2001	Paul Fortin University of Toronto	University of Toronto
2000	Edward Giannini University of Cincinnati College of Medicine	University of Toronto
1999	Earl D. Silverman University of Toronto	Laval University
1998	Bianca Lang Dalhousie University	University of Toronto
1997	James T. Cassidy University of Missouri	McGill University
1996	Norman T. Ilowite Albert Einstein College of Medicine	University of Toronto
1995	Ronald M. Laxer University of Toronto	Memorial University
1994	Alan M. Rosenberg University of Saskatchewan	University of Toronto

Rheumatology Choosing Wisely

By Shirley Chow, MD, FRCPC

Rheumatologists play a unique and vital role in guiding their patients toward the most effective rheumatology care. To that end, the CRA, along with the Canadian Medical Association (CMA) and other national specialty societies, have joined the Choosing Wisely Canada campaign to develop a list of five tests or procedures that have evidence indicating that they may be unnecessary and, in some instances, could cause harm. Choosing Wisely Canada is modelled after the successful Choosing Wisely¹ campaign in the United States. Initiated by the American Board of Internal Medicine



(ABIM) Foundation, 25 medical societies, including the American College of Rheumatology (ACR),² have developed “Top Five” lists of tests or treatments that physicians and patients should question.

Optimizing value and eliminating waste in medical care is a worldwide concern. In parts of the US, evidence shows that an estimated 30% of all medical spending is unnecessary and does not add value to care.³ Overuse can occur for a variety of reasons, including physicians accommodating patient requests, ordering the most recent technology even if unproven, fear of missing something or litigation, or learned practice habits. Overuse does not add value to care; in fact, it takes away from care by potentially exposing patients to harm, leading to more testing to investigate false positive tests, and contributing to stress and avoidable costs for patients. In addition, it increases strain on our healthcare system. The responsibility resides primarily with physicians to practice evidence-based medicine, and to know when specific tests or procedures are unnecessary and why. Equally important is the role of

patient education and the need to dispel the false notion that “more care is better care.”

A committee of rheumatologists, consumers, and allied health professionals from across Canada are working together to generate a list of tests or treatments in rheumatology that are unnecessary. Similar to the ACR methodology, the core group has gone through three Delphi rounds where participants rank items based on their agreement with content of the suggestion, prevalence of the item in their community, highest impact on costs, and relevance of the item to their practice. Following this, the top items were presented to the entire CRA membership for their input. Finally, a targeted literature review will be completed to select the final five items.

The list will not be a prescriptive list of rules, as clinical judgment is paramount. The list is based on the best-available current evidence and changes can be made as research evolves. It will demonstrate that high-quality care and efficient use of finite resources are not mutually exclusive. Ultimately, it will serve to guide rheumatologists, rheumatology health professionals, and their patients, and encourage dialogue to make wise choices in care.

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RA Guidelines: Practice Patterns of Rheumatologists in Canada Compared to the CRA Recommendations for RA (Part II)

By Sankalp V. Bhavsar, MD, FRCPC; on behalf of Carter Thorne, MD, FRCPC, FACP; Claire Bombardier, MD, FRCPC; Vivian P. Bykerk, MD, FRCPC; Glen S. Hazlewood, MD, FRCPC; Pooneh Akhavan, MD, FRCPC; Orit Schieir, MSc; and Sanjay Dixit, MD, FRCPC

In this installment, we present the results of the survey questions pertaining to general rheumatoid arthritis (RA) management strategies and treatment with glucocorticoids and methotrexate (MTX).

General Management Strategies and Treatment with Glucocorticoids and MTX

1. Regarding the use of glucocorticoids in RA, which of the following statements is false?

Answer: There are guidelines regarding glucocorticoid-tapering strategies in RA.

Recommendation/supporting evidence: European League Against Rheumatism (EULAR) 2010;¹ National Institute of Clinical Excellence (NICE) 2009.²

There is a body of evidence supporting the short-term use of glucocorticoids in the initial management of patients

with RA and anecdotal evidence regarding the efficacy of glucocorticoids in managing flares and as bridge therapy. The use of glucocorticoids is associated with a potential for toxicity and should be ideally restricted to low doses and tapered rapidly. An optimal tapering strategy, however, cannot yet be recommended. When choosing a route of administration, intramuscular or intraarticular steroids allow more control over the total cumulative dose and may be preferable in certain situations. Intraarticular steroids can be particularly useful for controlling residual synovitis if a few swollen joints remain, as they avoid systemic toxicity.

2. In patients with newly diagnosed RA (or with persistent synovitis with a strong suspicion of RA), when would you initiate disease-modifying anti-rheumatic drug (DMARD) therapy?

Answer: As soon as possible.
Recommendations/supporting evidence: EULAR 2010;¹ Spanish Society of Rheumatology 2010.³

Table 1. Regarding the use of glucocorticoids in RA, which of the following statements is false?

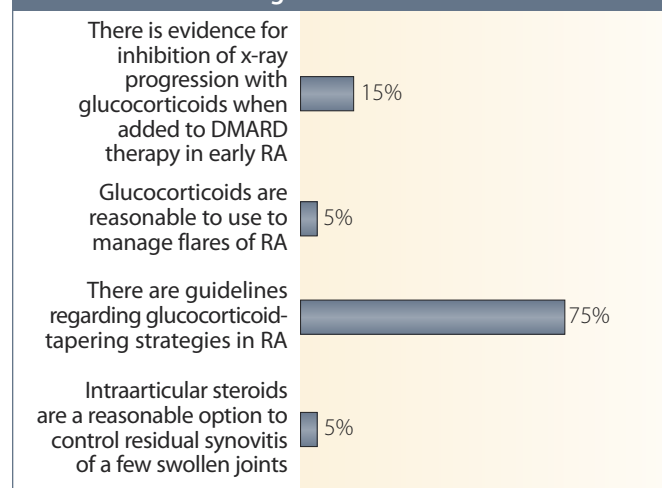
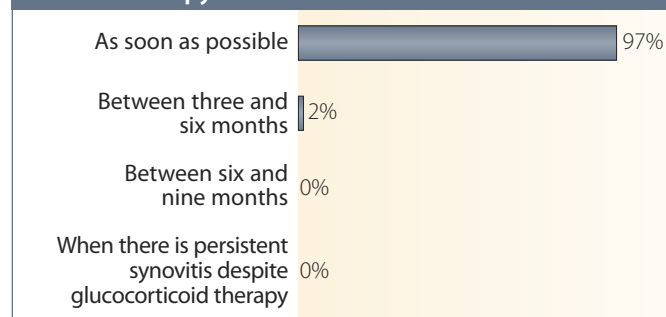


Table 2. In patients with newly diagnosed of rheumatoid arthritis (or with persistent synovitis with a strong suspicion of RA), when would you initiate DMARD therapy?



There is conclusive evidence supporting early treatment with DMARDs in patients with RA. The diagnosis of RA can be difficult, and therefore the recommendation refers to patients with persistent synovitis, including patients with a strong suspicion of RA, but who do not meet full classification criteria.

3. In patients with newly diagnosed RA and no contraindications, what would be your preferred initial therapy?

Answer: MTX.

Recommendations/supporting evidence: EULAR 2010.¹

There is sufficient evidence to support methotrexate as the preferred DMARD in patients with RA based on its safety and efficacy profile. Other DMARDs have also been proven to be effective (e.g., leflunomide, sulfasalazine, hydroxychloroquine, etc.) and may be considered in certain situations. Examples include patients with contraindications to MTX, patients with mild disease, and/or in situations where MTX use may not be desirable (e.g., a young woman who may become pregnant).

4. Regarding the use of MTX in RA, which of the following is false?

Answer: Parenteral MTX can be titrated to a maximum dose of 35 mg weekly.

Recommendations/supporting evidence: Visser 2009.⁴

MTX should be started at higher doses (e.g., 15 mg/week) with rapid dose escalation, including in certain situations starting directly at target dose. The usual maximum dose of MTX is 25 mg/week. No specific schedule is recommended, as the optimal schedule for dose escalation depends on the clinical context of the patient. Initial therapy with subcutaneous MTX (e.g., > 15 mg/week), or switching to subcutaneous administration after failure of oral MTX due to intolerance or inefficacy are appropriate options. In the

Table 3. In patients with newly diagnosed rheumatoid arthritis and no contraindication, what would be your preferred initial DMARD therapy?

Leflunomide	0%
Methotrexate (MTX)	97%
Sulfasalazine	0.6%
Hydroxychloroquine	3%

latter case, other alternatives such as adding or switching DMARDs could also be considered.

For further information on these recommendations and the supporting evidence of these results, please consult the CRA RA Guidelines document, available at www.rheum.ca/en/publications/cra_ra_guidelines.

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Table 4. Regarding the use of MTX in RA, which of the following statements is false?

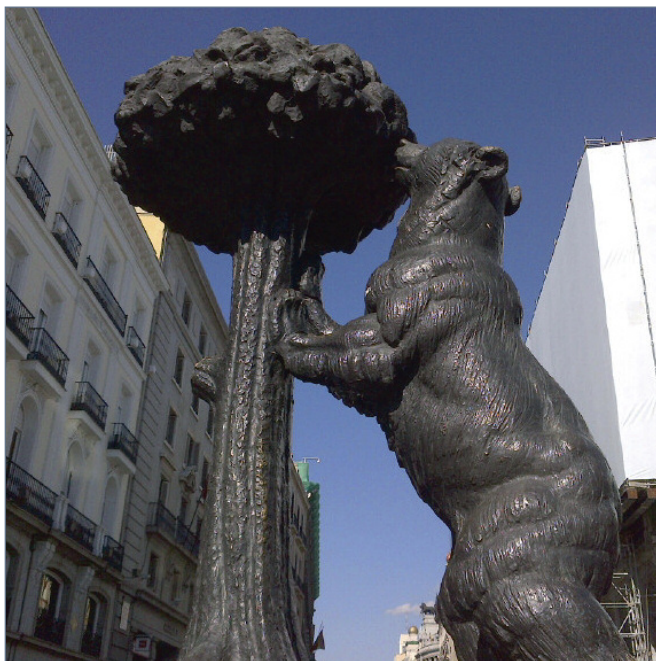
Parenteral MTX can be titrated to a maximum dose of 35 mg weekly	83%
Parenteral MTX can be used as initial therapy, or when there is intolerance, poor compliance, or lack of efficacy with oral MTX	5%
MTX should be titrated to a maximum dose of 25 mg weekly by rapid dose escalation	9%
MTX can be started at initial doses of 15 mg weekly or greater	3%

EULAR 2013

By Philip A. Baer, MDCM, FRCPC, FACR

I arrived at The European League Against Rheumatism (EULAR) 2013 congress in Madrid a couple of days early. Very fortunate, given the strike affecting French airspace which began the day before the official start of EULAR and spanned three days. Between Icelandic volcanic ash, last year's wildcat Lufthansa strike, and this latest disruption, travel in Europe can be very exciting. One stalwart group, Bikers against Rheumatism in Europe (BaRiE), arrived undaunted after a 1,600 km ride from Brussels, the headquarters of the European Community.

Once landed, Madrid proved to be an excellent host city. The convention centre, IFEMA Fiera de Madrid, was modern and ample in size to accommodate the 14,000+ attendees from over 110 countries who attended EULAR's 14th annual congress. The central promenade between hangar-size exhibit halls provided some environmental vitamin D exposure, as well. Madrid boasts an excellent and easy-to-navigate subway system, using Bombardier-designed cars, with a subway stop just outside the IFEMA. It easily links to downtown Madrid's museums and other cultural attractions.



A symbol of Madrid, the Bear and the Strawberry Tree statue.

The Spanish economy has experienced many problems recently, but these were not that evident to the casual tourist observer. There were some strolling musicians who played impromptu concerts for loose change on the subway. Squeegee kids have not crossed the Atlantic, but jugglers and other buskers were occasionally spotted performing in the streets at red lights. After a walking tour, I happened upon a philatelic exhibition in Plaza Mayor. I purchased a souvenir sheet "celebrating" the 10th anniversary of the introduction of the Euro common currency. Perhaps "celebrating" was not the word many Spaniards would have chosen in the summer of 2013. However, the city overall appeared bustling, dynamic, and vibrant, as well as very clean. Madrid is hoping to host the 2020 Summer Olympics, while its rival Barcelona strives to host the 2022 Winter Olympics. One hopes that EULAR provided a good trial run, logistically.

As usual, a large contingent of Canadians attended EULAR. Restaurants opening at 9 P.M. took some getting used to, but the food was worth waiting for. Iberian ham, fresh fish, and Rioja and Douro wines were some of the culinary highlights.



¡Bienvenidos a Madrid!

Scientifically, EULAR provided a smorgasbord of basic science and clinical papers covering all core areas of rheumatology, as well as pain management and metabolic bone diseases. According to EULAR President Maxime Dougados, 3,800 abstracts were submitted, with 9% selected for oral presentations, and another 1,800 for posters. Innovative biologics targeting IL-17 and IL-23 were again newsworthy, as were further comparative efficacy trials in rheumatoid arthritis (RA), and explorations of new mechanisms of action in psoriatic arthritis (PsA). Excellent clinical reviews were featured in the ongoing lecture series *What is New* (WIN) and *How to Treat* (HOT). Updated EULAR 2013 RA Management Guidelines were presented by Dr. Josef Smolen on behalf of the EULAR task force at the last HOT session.

Strategy trials in RA were a popular theme, particularly looking at whether disease-modifying anti-rheumatic drugs (DMARDs) and/or biologic therapies could be tapered in those achieving remission or low disease response in the first year of treatment. Another noteworthy trial with Canadian content was the RACAT trial, presented at EULAR and published online simultaneously

in the *New England Journal of Medicine*, with our own Dr. Vandana Ahluwalia and Dr. Ed Keystone as co-authors.

The symbol of Madrid is a bear standing up and eating fruit from a madrono tree, which bears red fruit superficially similar to strawberries. The reason these two items were chosen to represent Madrid is the subject of much dispute. The guide on my tour said that Christian forces saw the Ursa Minor (Little Dipper or Little Bear) constellation in the sky above Madrid the night before their successful conquest of the Moors, who controlled Madrid at the time. None of my online sources confirmed that. This Baer does not care, and was happy to experience Europe's third largest city at EULAR 2013. Next year, to Paris!

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Tenacious participants in the Bikers against Rheumatism in Europe (BaRiE) group, who pedalled 1,600 km from Brussels to Madrid.



Some of the Canadian contingent, sampling wines and literature while abroad.

Canadian Rheumatology Association / Mexican College of Rheumatology Update: 2013

By Cory Baillie, MD, FRCPC

The CRA, the Mexican College of Rheumatology (MCR), and the Pan-American League Against Rheumatism (PANLAR) are in the preliminary stages of investigating a possible joint scientific meeting. The proposed date and location is Cancún in the spring of 2018. Further details will follow in upcoming issues of CRAJ.

For the past four years, investigators from the CRA and MCR have met annually to facilitate the development of collaborative research initiatives. The CRA and MCR have now given approval, in principle, to the establishment of a conjoint research fund. The purpose of this fund would be to fund research with the goal of fostering and strengthening the partnership between the CRA and the MCR, as well as rheumatology research collaborations between investigators in Canada and Mexico who are members of the CRA or MCR. Formal terms of reference are in the process of being established between our two organizations. Members with an interest in collaborative research are encouraged to begin thinking of proposals. More information will follow on the CRA website and in CRAJ as this endeavour proceeds.

Cory Baillie, MD, FRCPC
Vice-President, Canadian Rheumatology Association
Winnipeg, Manitoba



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We Need YOU!

Utilization of Musculoskeletal Ultrasound in Daily Rheumatology Practice and Research

By Maggie Larché, BSc, MBChB, MRCP(UK), PhD;
Christopher Lyddell, MbChB(UCT), DA(SA), FCP(SA); Alessandra Bruns, MD, MSc;
Vivian Bykerk, MD, FRCPC; Navjot Dhindsa, MD; Karen Adams, MD, FRCPC;
Michael Stein, MD, FRCPC; Johannes Roth, MD; and Abe Chaiton, MD, MSc, FRCPC

An Opportunity for Improved Diagnosis, Therapeutic Decision-making, and Understanding of Pathophysiology of Rheumatic Disease: The Canadian Experience

Utilization of point-of-care musculoskeletal ultrasound (MSK US) in daily practices of rheumatologists offers important benefits to clinical assessment alone, by facilitating more accurate diagnosis,¹ better therapeutic decision-making,² and a greater understanding of the underlying pathophysiology of rheumatic diseases.³ MSK US can also provide objective measures of clinical outcomes.^{4,5}

History of MSK US

The first reported use of MSK US was by Dussik and colleagues⁶ who measured the acoustic attenuation of articular and periarticular tissues including skin, adipose tissue, muscle, tendon, articular capsule, articular cartilage, and bone. Subsequently, MSK US was applied to a MSK diagnosis to differentiate Baker's cyst from a deep venous thrombosis,^{6,7} and since that time has been successfully used to investigate a wide range of soft tissue and bony pathologies.^{8,9} The first demonstration of synovitis in rheumatoid arthritis (RA) was performed in 1978 by Cooperberg,¹⁰ who correlated grey-scale images of synovial thickening and joint effusion in the knee with clinical and arthrographic findings before and after treatment with yttrium-90 injection. Several other studies have demonstrated that MSK US is better than clinical assessment in identifying small effusions or synovial proliferation and at evaluating early osteoarthritic changes and/or crystal deposition.^{1,10-13} Many other advantages of MSK US have been recognized (Table 1).

The high-quality machines that are currently available provide sharply defined images with a high level of spatial resolution (down to 0.1 mm). In addition, power Doppler

capabilities, which demonstrate blood flow in the small vasculature, can act as a marker to identify local inflammation, and as a predictor of disease progression. Procedures can be carried out efficiently and are easily repeatable, thus providing an opportunity to monitor patient changes and responses to treatment over time. Furthermore, MSK US guidance provides more accurate needle placement, relative to surface anatomic guidance, for joint and bursa injections at various sites.¹⁵

Usage and Practice

MSK US may contribute to more effective disease management with earlier and more accurate detection of synovitis and implementation of optimal therapies. In Canada, this imaging modality provides a more timely evaluation than MRI, with a sensitivity that is equivalent at most sites, when evaluating soft tissue pathologies and bone erosions.

Some of the challenges preventing more rapid and widespread implementation of MSK US in daily practice include access to machines, adequate training programs with sufficient numbers of expert mentors, need for harmonization of standards of use at the local and international levels through the introduction of certification programmes, and necessary development of regulatory bodies, as well as establishing processes for reimbursement by public and/or private payers.

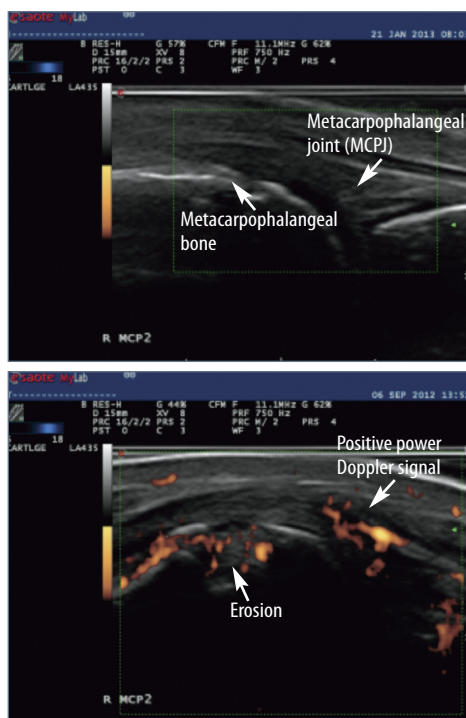
Interest in MSK US among rheumatologists has dramatically increased over the past decade^{7,16,17} in response to its perceived utility in diagnosis and management of rheumatic and MSK disorders, as well as its potential for achieving better clinical outcomes. Europe and South America have been at the forefront of integrating MSK US into daily practice; ongoing initiatives for more than 25 years include the development of an educational framework and various training programs in these countries.¹⁸⁻²⁰ MSK US is part of subspecialty training in

several countries including Germany and Italy. In a recent questionnaire, it was recently reported that 80% of German rheumatologists use MSK US in daily practice.²⁰ A 2005 survey found that 93% of British rheumatologists use MSK US in managing patients, and 33% perform US assessments themselves.²¹

Although uptake among North American rheumatologists has been slower, the efforts of rheumatology societies have succeeded in raising practitioner awareness that bedside MSK US provides important benefits complementing clinical assessment. Use of MSK US quadrupled in the United States between 2000 and 2008. This increase is primarily by non-radiologists.¹⁹ The American College of Rheumatology (ACR) has run an MSK US course for the past three years, and will soon launch a certification of competence examination for rheumatologists in MSK.²² A train-the-trainers program has as its goal to train at least one teacher at each academic site across the nation. Results of a 2010 needs assessment completed by 156 Canadian rheumatologists reported that 50% of these physicians use MSK US in clinical practice, but only 7% of users performed the scans themselves, with 92% referring to radiology. In the latter group, more than 50% reported a delay of four weeks or longer for the imaging to be carried out. There is clearly an opportunity for improving efficiency by training rheumatologists in point-of-care MSK US.²³

CRUS: Development, Research, and Training

Led by Dr. Vivian Bykerk and Dr. Ed Keystone, a committed group of rheumatologists convened an initial meeting in Toronto in January 2009 with the aim of establishing a formal society to promote implementation of MSK US in daily practice and research, and to develop training and certification programmes. Through an unrestricted educational grant from Abbott (now Abbvie), the Canadian Rheumatology Ultrasound Society (CRUS) was inaugurated



US images of a normal metacarpophalangeal joint (top) and the same joint with RA (bottom).

in June 2010 and held its first meeting in September 2010. Dr. Bykerk, Dr. Karen Adams, Dr. Alessandra Bruns, Dr. Abe Chaiton, Dr. Maggie Larché, Dr. Johannes Roth, Dr. Michael Stein, Dr. Artur Fernandes, and the late Dr. Visithan Khy were the founding members.

The initial focus of CRUS has been on building competence in MSK US among rheumatologists. This is to be achieved through integrated hands-on teaching with e-learning (regular uploading of practice images, followed by expert review); Dr. Roth and Dr. Larché have led this initiative. As of May 2013, 65 rheumatologists had participated in the e-learning study, with an additional 25 currently in training. The course consists of three sets of weekend sessions; each session has a didactic and a hands-on training component,

including anatomy sessions at McMaster University. Participants engage in self-directed practice sessions during the weeks between weekend sessions. The uploading of images during this time to the CRUS website and expert review provides another learning modality.

Thus, since 2010, 12% of Canadian rheumatologists ($n = 537$) have received training in MSK US. There are also moves to incorporate MSK US in the training programs for rheumatology fellows. A pilot scheme is near completion in Toronto, with 10 fellows being trained over the course of a year; these hands-on sessions are led by Dr. Chaiton, Dr. Larché, and Dr. Pooneh Akhavan. Self-directed practising of the technique, uploading to the CRUS website, and expert feedback are all a part of the training. Led by Dr. Bruns, the rheumatology fellows at Université de Sherbrooke have been learning US as part of their training for the past five years. In 2013-2014, Ottawa fellows will have the opportunity to learn MSK US with Dr. Roth.

A refresher/intermediate level course led by Dr. Bruns will be offered February 24-25, 2014, in the two days prior to the next Canadian Rheumatology Association (CRA)

meeting in Whistler, British Columbia. A certification day will be held the day following the CRA Meeting, consisting of a two-hour written examination and a one-hour supervised scan acquisition using randomly assigned joints and a predefined score sheet. An advanced level course will be planned subsequently at Université de Sherbrooke. Since 2009, Dr. Bruns has run basic and intermediate/advanced courses alternating each year; these are held predominantly in French.

A train-the-trainer initiative has begun, with Dr. Bruns leading a group of recently trained rheumatologists in best teaching techniques in US. Furthermore, during the CRUS courses, there are opportunities for more junior teachers to shadow an experienced trainer.

In his capacity as officer for training and certification, Dr. Roth has led the development of a WebEx curriculum in rheumatologic US. A series of web-based US tutorials, led by a national or international expert, cover aspects of ultrasonography including treating to target in RA, incorporating US into practice, and challenges of US in vasculitis.

Research is another focus of CRUS. Led by Dr. Michael Stein, the Prospective Observational Study to Evaluate the Use of MSK US to Improve Rheumatoid Arthritis Management: Canadian Experience (ECHO study) is a Canada-wide RA outcomes study with two arms (US and control groups). Another initiative is BIODAM, an international study of biomarkers in RA, with seven Canadian centres recruiting for the US arm. Smaller investigator-initiated studies include a foot imaging study in RA, development of a pediatric US atlas, and assessment of the utility of US in decision-making in patients with RA.

The practical aspects of implementation of MSK US are also being addressed by CRUS. These include reimbursement, improving access to machines, and advocating for inclusion of ultrasonography in the CRA Rheumatology Guidelines. In partnership with leading researchers, including Dr. Keystone, Dr. Boulos Haraoui, Dr. Bykerk and Dr. Denis Choquette, CRUS aims to increase the awareness of ultrasonography for rheumatologists, to incorporate US in a treat-to-target initiative, and to



Dr. David Bong, of the University of Barcelona, provides an anatomy demonstration.

increase the funding base for rheumatologists to be reimbursed for these procedures.

CRUS aims to ensure that the society represents all Canadian rheumatologists interested in MSK US; this will be accomplished by establishing a National Board that will advise the Executive of CRUS. This National Board would enable the creation of a database of rheumatologists interested in MSK US in Canada. CRUS has likewise undertaken an initiative to develop an image bank, a modular series of images for training purposes. The hip modules have been recently completed by Dr. Bruns. A password-protected “members-only” website is also being

developed which includes content for further study by recently trained rheumatologist ultrasonographers.

CRUS: Activism and International Efforts

Canadian rheumatologists involved with MSK US maintain a high profile at the international level. They participate in MSK US training courses offered at ACR and European League Against Rheumatism (EULAR) meetings and the Barcelona sonoanatomy course (held in February each year). Similarly, several international tutors participate in the Canadian basic weekend course. A number of Canadian rheumatologists also are involved in the Outcome Measures in Rheumatology (OMERACT) groups related to ultrasonography. Furthermore, Dr. Chaiton and Dr. Roth have been participating in the ACR certification endeavour as invited members of the Musculoskeletal Ultrasound Certification in Rheumatology (RhMSUS) Examination Development and Review Group for the ACR.

Dr. Larché and Dr. Roth are ambassadors for the Targeted Ultrasound Initiative (TUI), an international effort to use MSK US in a treat-to-target approach for RA.²⁴ Dr. Chaiton is also a member of the Ultrasound Committee of the American Association of Neuromuscular and Electrodiagnostic Medicine (AANEM).

CRUS is part of a multidisciplinary group developing a point of care ultrasonography Diploma with the Royal College of Physicians of Canada. Through these and

future endeavours spearheaded by CRUS, the number of Canadian rheumatologists with sufficient expertise to use US in daily practice and monitor patients with MSK diseases will continue to grow until this becomes a widespread practise. CRUS strongly encourages Canadian rheumatologists to take part in the upcoming training opportunities:

• **Université de Sherbrooke MSK US:**

- Basic and intermediate/advanced courses available.
- For further information, please contact Dr. Bruns (alessandra.brun@usherbrooke.ca).

• **CRUS Course:**

- **Basic:** September 21-22, 2013 and February 1-2, 2014 at McMaster University, and on May 25-26, 2014 at Lake Muskoka. .
- **Refresher/Intermediate:** To be held February 24-25, 2014 prior to the CRA Annual Meeting in Whistler, B.C.
- For further information, please contact Ms. Alyssa Long (along@cheo.on.ca).

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on behalf of Christopher Lyddell, MbChB(UCT), DA(SA), FCP(SA); Alessandra Bruns, MD, MSc; Vivian Bykerk, MD, FRCPC; Navjot Dhindsa, MD; Karen Adams, MD, FRCPC; Michael Stein, MD, FRCPC; Johannes Roth, MD; and Abe Chaiton, MD, MSc, FRCPC

Communicating With Seniors: A Workshop for Nursing Staff

By Monique Camerlain, MD, FRCPC; and Geneviève Myhal, PhD

Successful aging requires a process of adaptation based on community attitudes and information integration by seniors.¹ According to the MacArthur Foundation Study, the three components of successful aging are: the absence of disease-related disability, high cognitive and physical functioning, and active engagement with life.² Professional-patient communication, which is the very foundation of counselling, plays a vital role in sustaining these components.³ Communication helps to maintain an information-action relationship with the patient that is necessary to provide quality care and achieve treatment goals. Communication motivates patients and fosters treatment compliance.⁴

We must learn, therefore, to compensate for the visual, auditory, motor, and cognitive limitations of aging. We need to reject socio-demographic perceptions, prejudices, and negative attitudes toward seniors and create a synergy that enables us to provide quality care while allowing seniors to remain autonomous and engaged with life, so that they can live the adventure of their golden years to the fullest.^{3,5,6} Given the current economic reality, we need to acknowledge the fact that a growing number of Americans are thinking of postponing retirement until age 80.⁷ With this in mind, we conducted a workshop on nursing care in rheumatology and dermatology—issues and progress (SIRDEP: *Soins infirmiers en rhumatologie et dermatologie—enjeux et progrès*). Our objectives were to enable participants to address the following issues with their rheumatic disease patients:

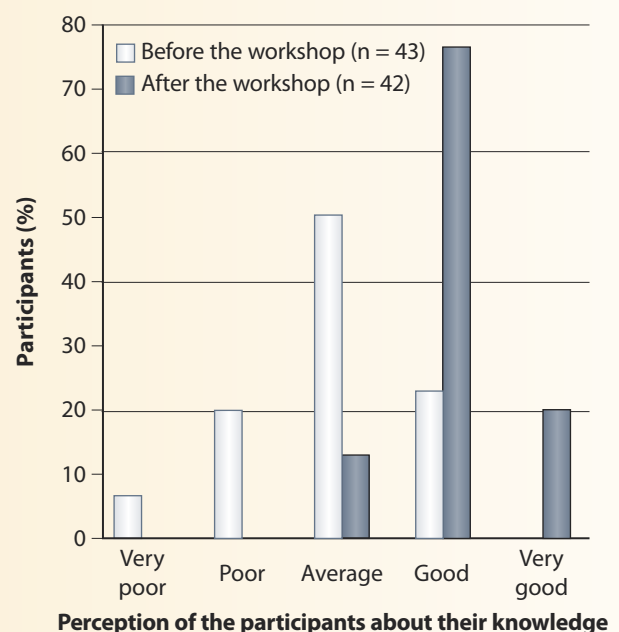
- Link adaptation to aging with health communication;
- Discuss demographics regarding the 65+ age group to correct myths;
- Describe negative attitudes toward seniors, including gerontophobia, infantilization, and ageism;
- Define ageism, its forms, and health consequences;
- Describe age-related changes that affect communication, and treatment approaches adapted to elderly patients;

- Describe clinical and technological ways of compensating for the limitations of aging so as to better serve these patients.

The workshop entailed role-playing, a theoretical presentation, and an interactive session. A pre-post questionnaire was used to assess whether objectives were met and the degree to which participants, for whom we had established certain demographic and professional characteristics, were satisfied. A total of 43 participants completed the pre-workshop questionnaire and 42 completed the post-workshop questionnaire. Of the participants, 84% were female, the average age was 44, and 60% had 16 or more years of professional experience.

Figure 1 shows perceived progress in knowledge of the demographics of aging. As illustrated, 86% of participants rated their knowledge of demographic

Figure 1
Knowledge of the Demographics of Aging



data as “good” or “very good” after the workshop, improved from 23% before the workshop. Furthermore, none of the participants rated their knowledge as “poor” or “very poor”, compared to the 26% who noted so before the workshop.

Regarding understanding of ageism more generally, 88% of participants rated their knowledge as “good” or “very good” after the workshop, compared to 25% before the workshop. While 23% assessed their prior knowledge as “poor” or “very poor”, none of the participants found this to remain true following the workshop (Figure 2).

Cognitive impairment can affect communication with the elderly; 17% of participants found their knowledge to be “poor” or “very poor”, while 49% assessed their knowledge as “average” before the workshop. After the workshop, however, 93% of participants rated their knowledge of cognitive impairment’s communicative influence as “good” or “very good”, a marked increase from the 35% who answered the same before the workshop (Figure 3).

If we look at ways of compensating for this impairment when communicating with the elderly, 26% of participants considered their knowledge as “poor” or “very

poor”, while 56% deemed their knowledge “average” before the workshop. After the workshop, 86% of participants rated their knowledge of ways to compensate for cognitive impairment as “good” or “very good”. Following the workshop, none of the participants considered their knowledge to be “poor” or “very poor” (Figure 4).

When queried about their overall experience, 93% of participants stated that they were satisfied with the content presented; no one noticed any dissatisfaction. As to interaction during the workshop, 69% of participants stated that they were satisfied with the level of interaction.

Ninety-three percent of participants would recommend this workshop. Finally, 98% of the 42 respondents stated their intention to apply the knowledge gained from this workshop in their practice (Figure 5).

We are confident our workshop achieved the objectives that we had set regarding knowledge of ageism and demographics of aging. Participants felt that they left more aware of gaps in communicating with seniors and had gained the skills to compensate for these gaps. We are also encouraged by the degree of satisfaction with

Figure 2
Knowledge of Ageism

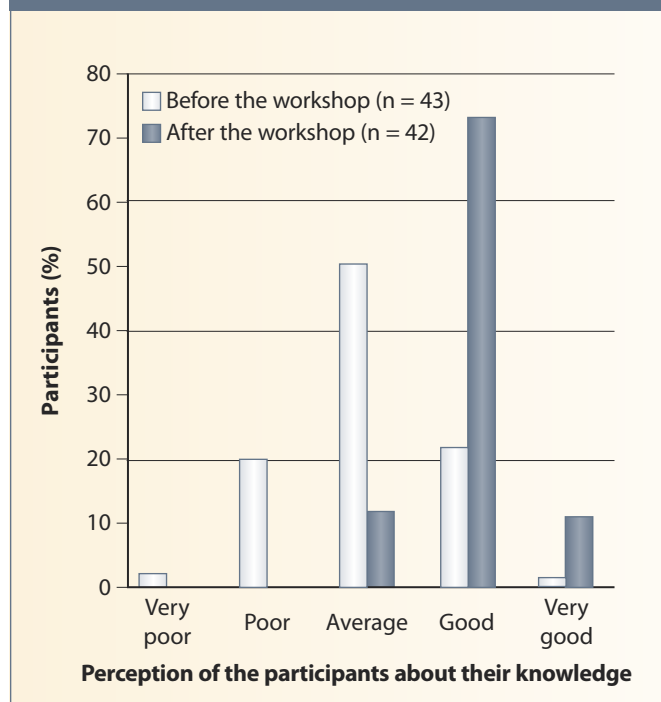
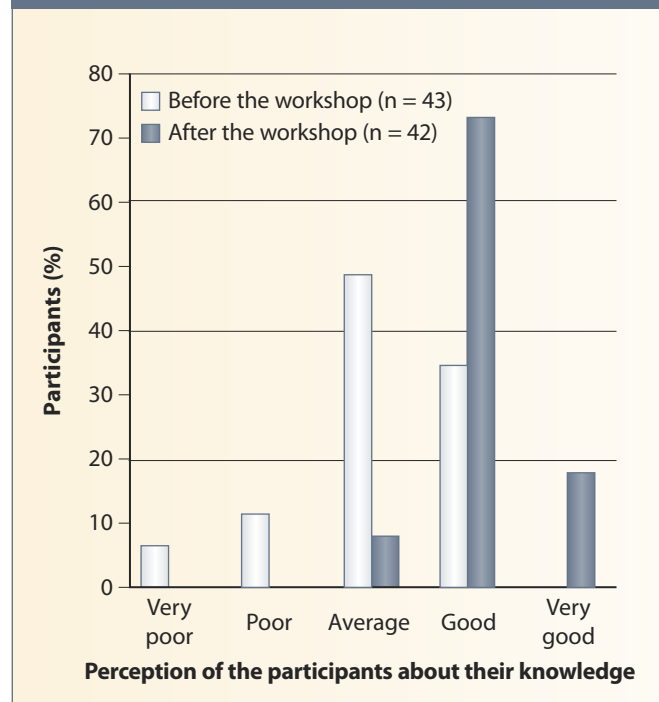


Figure 3
Knowledge of Cognitive Impairment that Can Affect Communication with the Elderly



the workshop content and interaction, as well as the intention to apply the knowledge gained through concrete action in the workplace. The qualitative comments collected were very positive, and suggest that this topic is very relevant to participants in their daily practice.

We hope to continue disseminating this vital knowledge to other groups and other workplaces, helping them develop skills to meet the needs of an aging population, so that seniors can enjoy their golden years.^{1,3,6} Our hope is to contribute to creating a positive dynamic between the aging population and the professionals who care for them, by giving the latter the communication tools they need to interact with seniors in the most optimal way.

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Figure 4
Knowledge of Ways to Compensate for Cognitive Impairment that Can Affect Communication with the Elderly

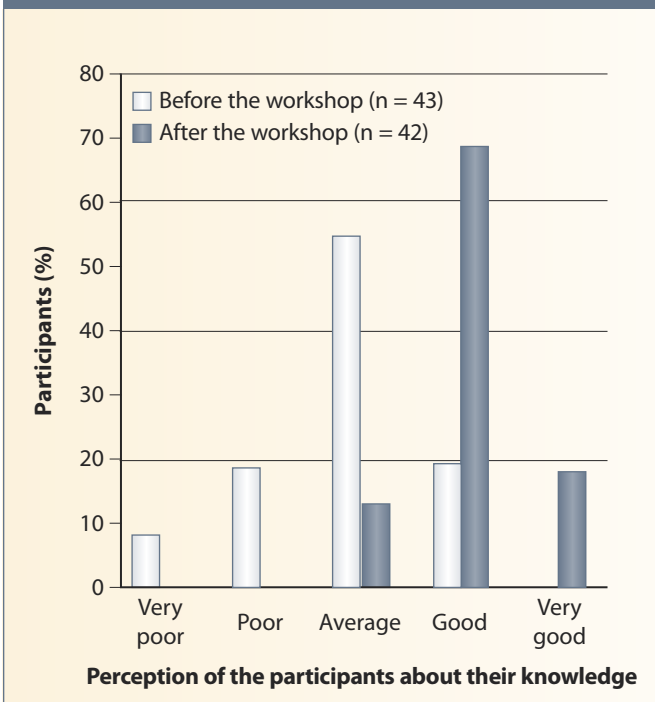
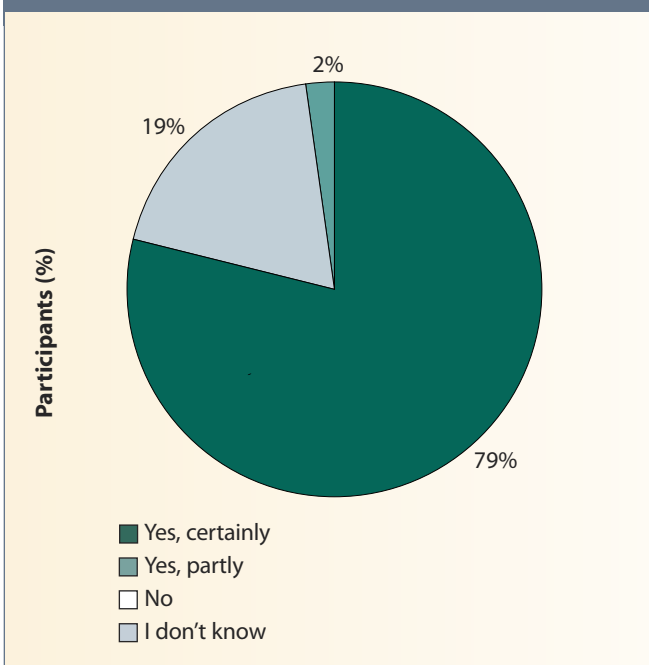


Figure 5
Intention to Apply the Knowledge Gained



Rheumatology in Saint John, New Brunswick

By Ewa Sadowska, MD, FRCPC

Rheumatology has a long history in Saint John, with the first rheumatic diseases unit (RDU) established in the early 1960s. Then, twenty beds were protected in three hospitals for inpatient treatment, often lasting as long as six weeks.

We have come a long way: therapeutic advances have exceeded the imagination of the most unrealistic optimist. Nevertheless, the tradition of the treatment team that had its origins in those long-stay units continues today. The rheumatic disease unit (RDU) wellness program, including interdisciplinary teams, was developed in 1994. Today, the wellness program admits rheumatologist outpatient referrals. Cathy McQuade was the pioneer. The irrepressible Barb White kept things energized until Bridget Stack assumed command, and she continues to innovate and promote patient services. The principle of self-efficacy for patients and family is at the core of the program.

The rheumatology tradition in Saint John is strongly linked to the development of the city as a location for post-graduate training. The first affiliation agreement with Dalhousie University was negotiated by Dr. Henrik Tønning, who set up rheumatology services in the facility and at the same time chaired the department. His successor, Dr. Virender Khanna, raised the bar in teaching excellence and attracted resident trainees not only to the clinical

rotation but to the specialty. The rheumatology teaching service continues to be heavily engaged in resident training at the core level within the Dalhousie Internal Medicine program.

Today there are two rheumatologists in Saint John, myself and Dr. Eric Grant. I was born, raised, and educated in Poland during times when the leaders were taking that part of the world in radically new directions. I obtained a training position in rheumatology at Dalhousie University, which I completed in 1996. Later, I moved to Saint John; the hospital, which is bordered by the Kennebecasis River, seems to sit in the middle of a small paradise, especially if you are a boater. My special interests are in systemic lupus erythematosus (SLE) and vasculitis. Dr. Eric Grant has practiced in Saint John since 1984. He trained under Dr. Manfred Harth in the University of Western Ontario (now Western) rheumatology program. Dr. Grant has been involved in resident education throughout his career, and serves as director for the Saint John site of the Dalhousie Internal Medicine training program.

The Saint John Regional Hospital operated by Horizon Health Network is the single-largest healthcare facility in the province, with advanced services in many disciplines including cardiac care and neurosciences. It serves a population of about 250,000, nearly one third of the province. Dr. Bianca Lang provides pediatric rheumatology consultation through travelling clinics.

The Saint John campus is affiliated with the Faculties of Medicine at the Dalhousie University in Halifax and Memorial University of Newfoundland. The future looks promising in Saint John where, in 2010, the Dalhousie medical school admitted its first class.

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View of the Saint John Regional Hospital RDU.

"You are only as good as your secretary." Thanks, Lesley and Rita.

Greetings from Moncton

By Peter S. Docherty, MD, FRCPC

Salut, tous mes friends. Greetings from Moncton, the "Hub of the Maritimes", the "drive-through-province", and the place where we speak both official languages, often at the same time.

While I will try to give you an update on rheumatology in New Brunswick, I can really only extrapolate from our experience in Moncton. Provincially, we are just beginning to organize ourselves with regard to patient care, improving access to services, and advocacy. In the past, issues with turnover and relocation of manpower have been dealt with only with limited collaboration. Some other provinces have committees with more rheumatologists than we have province-wide! Currently, there are nine rheumatologist spread across the three major cities (Moncton, Saint John, and Fredericton), providing services to New Brunswick, Prince Edward Island, and western Nova Scotia. In the past couple of years we have lost a number of rheumatologists in Moncton and are now down to four. The government is now working with us to provide trained nurse practitioners to improve access and services particularly for patients living in more remote areas.

The lack of familiarity with the location, the low population base, and, in some centres, the mandatory participation in an Internal Medicine rotation, have made recruitment to the Maritimes difficult. Fortunately, I have a relatively new colleague in Dr. Sylvie Ouellette who has made significant contributions to patient-care initiatives and medical education. It brightens your day and raises your game when you have a smart, cheerful colleague who brings new expertise. Merci, Sylvie.

Despite these issues, we consider ourselves fortunate to work here, for various reasons. Physician remuneration is comparably generous. Working in a relatively small system makes it easier to introduce change and directly deal with the decision makers. Our physician colleagues are great. We work side by side with other specialists and primary-care physicians, who



The Hopewell Rocks in beautiful New Brunswick.

cover the majority of inpatients. We are also becoming increasingly more involved the medical education with onsite family medicine resident-training programs, Internal Medicine residencies, and Fellow elective rotations, in addition to the recent establishment of two satellite medical schools in both official languages (Université de Sherbrooke and Dalhousie University).

On a provincial healthcare level, there is a new sheriff in town: the Minister of Health. He has the governing style of Yosemite Sam and he has paid to see the High Diving Hare act (I apologize to those of you who are more cultured and are unfamiliar with this classic Bugs Bunny character). The Minister plans to slash the healthcare budget and improve patient care. Realistically though, perhaps it is time for a radical change in a province that spends proportionately more every year despite shrinking revenues. Like other provinces, we need to figure out how to deal with chronic diseases in a timely and efficient manner. I hope the Minister is successful in achieving a sustainable healthcare system while maintaining a collaborative relationship with our valued professionals.

As I write this update, I am preparing to move to my cottage for the summer on a beach on the Northumberland Strait, across from P.E.I., and 25 minutes from work. New Brunswick is a beautiful province with plenty of natural attractions and opportunities for outdoor recreation. We are renowned for lobster, seafood, golf, beautiful beaches, and national parks with the highest tides in the world. The bilingual culture encourages excellent restaurants and the central Maritime location attracts major concerts, sporting, and artistic events. Even if you cannot live here, it is a great place to visit. Hope to see you soon!

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James Richard Topp

By Shelly M. Dunne, MD, FRCPC

Dr. James Topp passed away on April 8, 2013 in Toronto at the age of 85. His beloved life-partner Helen predeceased him by only five months. Dr. Topp was born in Ottawa and moved to Toronto as a teenager. He studied medicine at University of Toronto, graduating in 1951. He had a long time affiliation with Toronto East General Hospital including a term as Chief of Staff. Dr. Topp was something of a pioneer; he trained in England in 1964 where he was introduced to radioactive gold therapy and was the first in North America to use this treatment.

I had the pleasure of meeting Dr. Topp when I was a rheumatology trainee with Dr. Adel Fam at Sunnybrook in 1997. I had made the decision to pursue a career in community rheumatology and, as my luck would have it, Dr. Topp was soon to retire and looking for a young new rheumatologist to take over his practice in Don Mills, Ontario. Dr. Fam saw that the arrangement might be mutually beneficial and introduced us. I am forever grateful to Dr. Topp for this amazing gift, which allowed me, the greenest of the green, to step in to a fully furnished office, a roster of patients with inflammatory diseases needing continuing care, and a base of wonderful referring physicians. I was instantly busy and thankfully armed with many words of wisdom from Dr. Topp that I employ to this day. I still have many patients who regularly ask about him.

Dr. Topp was an intellectual and an avid reader. A lover of nature, he adored his summers at the cottage. He was a talented athlete who loved to play tennis, golf, and ski with his many friends. Dr. Topp and Helen had three children, Peter, Bruce, and Jane. Bruce became a family doctor, who often tells people he learned more about medicine and how to deal with patients from his dad than from attending medical school. Bruce recalls seeing patients on rounds with his dad, who had terrible end-stage rheumatoid arthritis (RA), noting how unfortunate it is that his father practised in an era where he did not have access to new management options, such as the advent of biologic disease-modifying antirheumatic



Helen Topp (1928 - 2013) and
Dr. James Topp (1928 - 2013).

drugs (DMARDs). Dr. Topp would surely have been an early adopter.

Sadly, both Dr. Topp and his wife suffered from dementia in their later years. Dr. Topp stoically cared for Helen before his own illness hit. They remained a loving couple, enjoying each other's company until the end. Dementia did not rob either of them of their dignity and grace. He remained always pleasant and cheerful, and loved to sing "Danny Boy" several times a day. Dr. Topp and Helen will be interred in Bracebridge, where they both had roots.

Dr. Topp will be sadly missed by his children, grandchildren, friends, and colleagues. Donations are welcomed in his memory to the Alzheimer's Society of Ontario, Toronto Chapter.

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If It's Not One Thing It's Another: Transformation of Lupus Nephritis

By Julie Barsalou, MD, FRCPC; Rohan John, MD; and Joanne M. Bargman, MD, FRCPC

A 25-year-old Haitian-born woman presents for her routine follow-up appointment. She was diagnosed with systemic lupus erythematosus (SLE) a year ago. Her disease features at presentation consisted of discoid skin lesions, photosensitivity, alopecia, oral ulcers, polyarthritides, leucopenia, lymphopenia, Coombs positive hemolytic anemia, and thrombocytopenia. Her serology was positive for ANA, anti-dsDNA, anti-Sm and anti-RNP antibodies. When first seen, she was found to have lower limb edema and her work-up showed a normal serum creatinine, low C3 and C4, hypoalbuminemia (30 g/L) and microscopic hematuria. A 24-hour urine collection revealed non-nephrotic range proteinuria (1.32 g/day). A kidney biopsy done at that time showed class III (A) lupus nephritis (LN) (Figure 1). The patient was started on high dose oral prednisone, mycophenolate mofetil (MMF), and hydroxychloroquine. Due to a severe skin reaction to MMF, treatment was changed to azathioprine.

Three months into her immunosuppressive therapy, she had improved significantly. Her skin lesions were healing and her lower leg edema had resolved. Her cell counts and complements had normalized, the albumin was improving (35 g/L), and anti-dsDNA titer was decreasing. The proteinuria was down to 500 mg/day. Due to her favourable evolution, her prednisone was gradually tapered and she continued to improve on her subsequent follow-up visits.

Her current presentation shows recurrence of significant lower limb edema. She is otherwise well; her blood pressure is normal. The blood work done today shows the following: normal complete blood count (CBC), normal serum creatinine, an albumin of 20 g/L, normal C3 and C4 and low titer positive anti-dsDNA (stable). Her urine dip is positive for trace blood and > 3g/L of protein. A 24-hour urine collection now shows 9.4 g/day of protein. A second kidney biopsy is performed and findings are now compatible with pure class V LN (Figures 2 and 3).

Class V Lupus Nephritis

Membranous lupus nephritis (MLN) is characterized on histopathology by global or segmental continuous granular subepithelial immune deposits.¹ Mesangial hypercellularity may be found, as well as mesangial immune deposits. When findings typical for MLN coexist with subendothelial immune deposits on light microscopy a diagnosis of combined LN should be made. The membranous variant of LN likely has a different immune pathogenesis compared to proliferative LN, as evidenced by our patient. She had a satisfying resolution of her immune complex disease and, at that point, rather suddenly developed MLN. A different pathogenetic mechanism, however, is not proven. In keeping with this there were some scattered subepithelial deposits in the first biopsy, as is not uncommonly seen in many cases

of proliferative LN. Class V LN is present in up to 20% of renal biopsies in patients with lupus. In contrast to proliferative LN, the influence of ethnicity on response to therapy and long-term prognosis is not well characterized for MLN.

Clinical Features

Patients often present with nephrotic-range proteinuria, hypoalbuminemia, and edema. Serology is usually positive for ANA, but complements may be within normal limits and anti-dsDNA antibodies absent. Significant hematuria, cellular casts, low complement levels, elevated serum creatinine, and positive anti-dsDNA antibodies may all be found, but warrant consideration of proliferative nephritis. However, the concomitant mesangial cell proliferation seen in membranous lupus can be associated with microhematuria

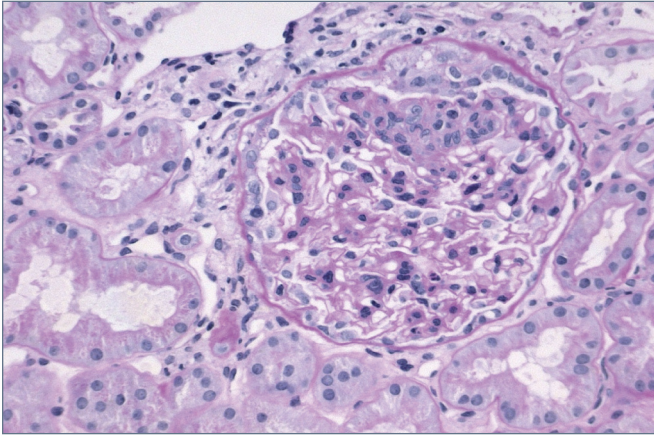


Figure 1. Biopsy 1: Class III lupus nephritis (LN). Glomerulus shows segmental area of endocapillary hypercellularity with possibly small adjacent cellular crescent. The remaining capillary loops are patent. There is mild mesangial expansion due to the increase in matrix and cells (light microscopy, PAS staining 20X).

and even red blood cell casts. Therefore, the finding of an “active” urine sediment does not necessarily imply that the patient has endocapillary proliferative LN.

Therapeutic Approach

The management of pure MLN is controversial. The available evidence mainly comes from case series and small, uncontrolled trials. Patients with MLN in combination with a proliferative form (class III + V, or IV + V) have a worse prognosis and should be treated as having proliferative LN. Patients with pure class V nephritis are reported to have a better outcome. Despite this, chronic kidney disease (CKD) and end-stage renal disease (ESRD) may develop in patients with MLN, especially in those with nephrotic-range proteinuria. Similar to patients with idiopathic membranous nephropathy, these patients are also at significant risk for thrombotic events and accelerated atherosclerosis. Pure class V nephritis should therefore not be regarded as a benign condition, especially when there is nephrotic-range proteinuria. Moroni et al recently published long-term outcome data on 67 patients with pure MLN, of whom 44.7% had nephrotic syndrome at presentation.² Patients were followed over a mean of 13 years in two centres. After 15 years, 94.5% of patients were alive and 83% were free of chronic renal insufficiency.

Renal protective measures should be implemented in patients with LN. Blood pressure needs to be monitored regularly at home and anti-hypertensive therapy should be tailored to obtain blood pressure values $\leq 130/80$.³ Salt

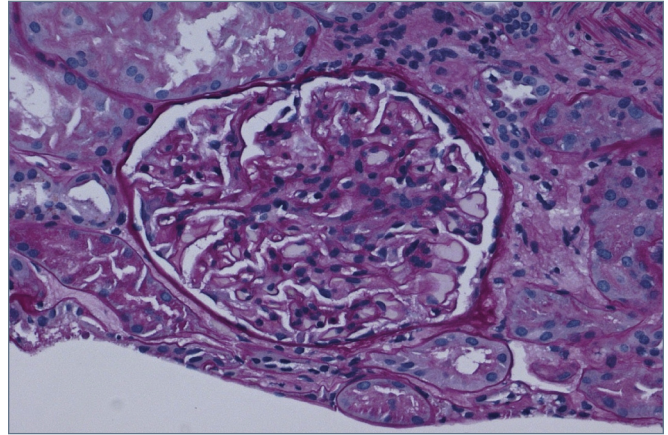


Figure 2. Biopsy 2: Class V lupus nephritis. Glomerulus shows segmental mesangial expansion due to the increase in matrix and cells. The capillary loops are thickened with a rigid appearance (light microscopy, PAS staining 20X).

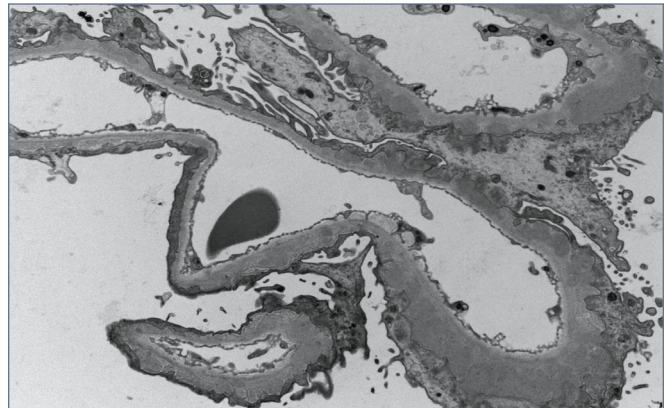


Figure 3. Biopsy 2: Class V lupus nephritis. Ultrastructural examination reveals numerous subepithelial immune-type electron dense deposits, mostly within stages 1 or 2. There is extensive foot process obliteration.

restriction (< 2 g/day) should be strongly encouraged. It is quite common for patients on high doses of corticosteroid to develop volume-dependent hypertension. Often the blood pressure will not come under optimal control until the dose of steroid has been reduced, and so the clinician should not strive to necessarily bring the blood pressure down to target. In the meantime, since it is a volume-dependent hypertension as a result of mineralocorticoid-induced salt retention, dietary sodium restriction and thiazide diuretics can be very helpful. Weight control, establishment of a regular aerobic exercise program, smoking cessation, counselling on alcohol consumption, and treatment of dyslipidemia should be regarded as management priorities to improve blood pressure and the overall cardiovascular risk profile.⁴

Table 1
Published Recommendations Regarding the Use of Immunosuppressive Therapies in Pure Class V Lupus Nephritis

	Statements	Level of Evidence
American College of Rheumatology Guidelines ¹²	<i>Nephrotic-range proteinuria:</i>	
	Prednisone (0.5 mg/kg/day) plus MMF 2-3 g/day No consensus reached for the use of other therapies	A N/A
European League Against Rheumatism (EULAR) / European Renal Association (ERA) - European Dialysis and Transplant Association (EDTA) Recommendations ¹³	<i>Proteinuria > 1g/day:</i>	
	Indication for immunosuppression	4C
	<i>Nephrotic-range proteinuria; corticosteroids and</i>	
	MPA	2B
	High-dose intravenous cyclophosphamide	2A
	Cyclosporin	2A
	Tacrolimus	3B
Rituximab	4C	
	<i>Non-nephrotic range proteinuria and no adverse clinical or histological prognostic factors:</i>	
	Azathioprine	4C
Kidney Disease: Improving Global Outcomes (KDIGO) Clinical Practice Guidelines ¹⁴	<i>Non-nephrotic range proteinuria and normal kidney function:</i>	
	Antiproteinuric and antihypertensive medications; use corticosteroids and immunosuppressive agents if needed for non-renal SLE manifestations	2D
	<i>Persistent nephrotic-range proteinuria; corticosteroids and</i>	
	Cyclophosphamide	2C
	Calcineurin inhibitors	2C
	MMF	2D
	Azathioprine	2D

Ongoing proteinuria may lead to progression of CKD. Although no definite proteinuria threshold at which an antiproteinuric agent should be started has been established in LN, it is reasonable to start such an agent if proteinuria exceeds 0.5 g/day. Angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARBs) should be used. Superiority of one class of medication over the other has not been demonstrated in systemic lupus erythematosus (SLE) patients.⁵ While the patient should be actively counselled against pregnancy during a flare of lupus, if they do conceive, these agents are considered teratogenic and should be discontinued.

Hydroxychloroquine therapy may decrease the incidence of renal flares.⁶ In addition, antimalarial therapy may provide other advantages. Reduced probability of renal damage accrual, favourable effects on lipid levels and glucose tolerance, and lowered risk of thrombosis are potential additional benefits to be gained from this class of drugs.⁷

Who Should Be Started On Immunosuppressive Therapy?

As demonstrated in Table 1, no consensus has been reached on the indication and optimal treatment regimen to use in pure MLN. The decision to start an immunosuppressive agent in subjects with nephrotic-range proteinuria is rational, as spontaneous remission in this subgroup of patients is less likely to occur, and, as mentioned, carries a significant risk of thrombosis. For those with sub-nephrotic range proteinuria, no evidence exists that immunosuppressive drugs lower the risk of developing CKD and/or ESRD or improve survival. Hence, the decision to start such therapy needs to be individualized.

What Type of Immunosuppressive Agents Should Be Used?

There is a lack of well-designed studies addressing this question. The only randomized controlled trial comparing prednisone to combined immunosuppressive therapy in pure class V LN was done on a small single-centre cohort of SLE patients with heavy proteinuria (median proteinuria

of 5.4 g/day).⁸ A total of 42 patients were randomized to one of three treatment arms: alternate-day prednisone, alternate-day prednisone and bimonthly IV cyclophosphamide, and alternate-day prednisone combined with cyclosporin. Patients were treated and followed for 12 months at which point remission, based solely on the proteinuria level, was assessed. Patients in the two groups treated with adjunctive immunosuppressive agents achieved remission of proteinuria more frequently than in the prednisone-alone group (10/12, 9/15, and 4/15 in the prednisone and cyclosporin, prednisone and cyclophosphamide, and prednisone alone groups, respectively).

Due to the small number of patients and to the fact that, after 12 months, treatment given was no longer protocolized, this study does not allow direct comparison of cyclosporin and cyclophosphamide's efficacy in terms of relapse prevention. However, the study is consistent with those in idiopathic nephrotic syndrome, where cyclophosphamide is associated with a more sustained remission than in those who receive a calcineurin inhibitor. However, this study used alternate-day prednisone rather than daily corticosteroid, and the data was collected over the span of two decades. A recent meta-analysis of studies on immunosuppressive therapy for MLN reporting remission outcome came to a similar conclusion.⁹ Response rate, defined as the sum of complete and partial remission rates, was contrasted between patients treated with at least one nonsteroidal immunosuppressive medication (n = 349; nonsteroidal agents used: azathioprine, mycophenolate mofetil, enteric coated mycophenolate sodium, chlorambucil, cyclophosphamide, cyclosporine, and tacrolimus) vs. those receiving corticosteroids alone (n = 136). Patients on nonsteroidal immunosuppressive medications showed a higher response rate than those on corticosteroid monotherapy (81% vs. 60%, respectively), even after heterogeneity and bias compensation (76% vs. 60%, respectively). Similar response rates were obtained for azathioprine (88%), cyclophosphamide (75%), cyclosporin (84%), and mycophenolate mofetil (82%). Despite methodological limitations, these studies seem to indicate that adjunctive immunosuppressive therapy may lead to higher remission rate.

Radhakrishnan et al performed a pooled analysis of 84 subjects with pure class V LN from two large RCTs comparing induction therapy with intravenous cyclophosphamide vs. MMF in LN.¹⁰ At 24 months, no significant difference between the two drugs was noted in terms of improvement in proteinuria and serum creatinine level. Due

to the favourable safety profile of MMF, it is likely to be preferred to cyclophosphamide unless there are doubts about adherence to therapy. Unfortunately, no data is available on the long-term outcome of these patients, so it is not known if the relapse rate will differ over time. Other trials have reported on the use of calcineurin inhibitors as an adjunct to corticosteroids for initial treatment, or for relapsing and refractory cases. Here again, limitations imposed by small sample sizes, non-RCT designs, short follow-up time, and the inclusion of proliferative or combined LN in the studied population prevent firm conclusions. A potential added benefit of using calcineurin inhibitors in MLN may be the antiproteinuric effect induced by this class of medication which seems to be independent of their immunosuppressive action. Finally, rituximab has been reported in uncontrolled studies to reduce proteinuria to non-nephrotic levels, mainly for refractory or relapsing cases. Also, a recent pooled analysis of European cohorts of LN patients treated with rituximab reported complete or partial response in 11/17 MLN subjects at 12 months.¹¹ It is challenging to sort out the true efficacy of rituximab as it has mainly been used as a rescue therapy and/or used concomitantly with other immunosuppressive agents. Similar to what plagues all studies of treatment of glomerulonephritis, there may be a significant lag time between therapy and response. If a patient is treated with Agent A, and then is switched to Agent B six months later, and goes into remission, it is uncertain whether the response was the result of Agent B, or a delayed response to Agent A. Furthermore, in all these studies, only short-term follow-up data is available.

Back to the Case: Cyclosporin, a loop diuretic and an ACE inhibitor were added to the patient's treatment regimen. The prednisone weaning continued. The patient improved gradually. At her last follow-up visit, 18 months after her membranous nephritis flare, her albumin has increased to 32 g/L and her proteinuria has decreased to 1.5 g/day.

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The Top Ten Things Rheumatologists Should (And Might Not) Know About Pain

By Owen D. Williamson, MB BS, FRACS, FFPMANZCA; and Pam Squire, MD, CCFP, CPE

The biomedical model suggests that the pain associated with inflammatory conditions should resolve once inflammation is adequately treated; however, it is common for pain to persist and even become widespread, once traditional clinical and hematological markers of inflammation have resolved.

Recent insights into the pathophysiology of persistent pain, and the importance of managing persistent pain within a broader biopsychosocial context, help guide people with pain and rheumatologists alike when faced with the dilemma of persistent pain in the absence of obvious musculoskeletal inflammation.

1. There is no persistent pain state where the degree of peripheral damage or inflammation correlates with the level of pain.

Although psychosocial factors contribute to this disconnect, so does abnormal pain processing, a state where neuroplastic changes in the pain-sensing system result in the propagation and amplification of ascending signals, loss of descending inhibitory signals or abnormal central processing, and maladaptive interpretation of both nociceptive and other neural signals.

2. Abnormal pain processing has been demonstrated in many common rheumatological pain conditions, both localized and widespread.

Examples include chronic low back pain, osteoarthritis (OA) of the knees and fibromyalgia (FM). Abnormal pain processing should be considered when patients with localized pain complain of excessive pain from minor activities, fatigue, memory difficulties, and sleep disturbance, and when clinical examination reveals tenderness outside the area of primary pain. Patients may also report markedly increased pain with repetitive painful stimulation (“wind-up” phenomenon) or persistent pain after stimulation has ceased.

3. Conceptualizing abnormal pain processing may be difficult for patients but their understanding is critical for treatment compliance.

Analogies can be useful in explaining pain. For example, abnormal pain processing is like a software problem in a computer; we cannot see the problem by looking at the computer, but we can recognize it by its behaviour. Applying treatments like anti-depressants or graded motor imagery (GMI) are like upgrading the software rather than replacing the hardware.

4. Persistent pain felt peripherally can respond to treatments directed centrally.

Abnormalities of cortical organization are seen in a number of persistent pain states, including complex regional pain syndromes, phantom limb pain, and chronic low back pain. Treatments that directly target cortical reorganization, such as GMI and mirror therapy, can improve persistent pain perceived in peripheral structures.

5. Although persistent pain may be due to abnormal pain processing, pain-related disability is due to the complex interaction of biological, psychological, and social factors.

People with persistent pain should be screened for mood disorders using self-assessment tools such as the Generalized Anxiety Scale (GAD-7) and the Patient Health Questionnaire (PHQ-9). Risk factors for abnormal pain processing, such as a personal or family history of persistent pain, should also be elicited. Better outcomes are obtained when biological, psychological, and social factors are addressed concurrently.

6. Cognitive impairment can impair the ability of people to work.

Severe pain alone interferes with memory and executive function. While patients in pain may perform simple tasks like writing a grocery list, they may struggle with complex

tasks such as completing a tax return. Consider the role of contributing factors such as medications, insomnia, fatigue, and mood disorders.

7. Cognitive distortions, particularly fear of further injury and catastrophizing, prevent functional improvements.

People with persistent pain should be screened for fear avoidance and catastrophizing using self-assessment tools such as the Tampa Scale for Kinesiophobia (TSK) and the Pain Catastrophizing Scale (PCS). A referral for cognitive behaviour therapy should be considered when you suspect cognitive distortions may be impeding functional recovery.

8. Although pain self-management programs can improve biological, psychological, and social contributors to persistent pain, readiness to accept this approach varies.

Using approaches such as Prochaska's Stages of Change model, assess each individual for readiness to change. Different approaches are needed to motivate change: educational approaches to make people aware of the need to try self-management, and cognitive behavioural approaches to overcome barriers once that need is recognized.

9. Pain-modifying agents should target both persistent pain and contributing conditions.

Tricyclic antidepressants (TCAs) and serotonin

norepinephrine reuptake inhibitors (SNRIs) appear to reduce abnormal pain processing. TCAs also improve neuropathic pain and sleep; SNRIs improve neuropathic pain, anxiety, and depression. Pregabalin can improve neuropathic pain and sleep. Tramadol and tapentadol have both opioid and TCA-like effects.

10. Opioids can increase pain and inhibit hormonal function.

Opioid-induced hyperalgesia should be suspected if patients develop increasingly diffuse pain and allodynia despite increasing doses of opioids. High doses of opioids, particularly over 200 mg of oral morphine equivalents per day, may contribute to problems of hypogonadism, adrenal dysfunction, and other hormonal disturbances.

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