

Created and distributed by the Mary Pack Arthritis Program: A newsletter for health professionals working with people with arthritis

Editor's Message

This is the new concise version of the newsletter. If anything you read sparks questions or comments, please get in touch Paul.Adam@vch.ca.

Introduction to the Assessment and Management of Rheumatic Disease: A skills workshop

Dates for the next 4-day skills workshop have been set for April 23 - 26, 2018. This workshop is for nurses, physical therapists, and occupational therapists new to the field of rheumatic disease or interested in receiving an update of current best practices. The registration deadline is Friday, March 23, 2018. Discipline-specific brochures and registration forms are on our website - <http://mpap.vch.ca/resources-for-professionals/becoming-an-ace-member>

Pain Management

The July issue of The Rheumatologist summarized a talk by Dr. Delia Chiaramonte - <http://bit.ly/2tiDtGp> - the premise is that while pain is related to nociception, or the perception of pain resulting from the neural processing of pain stimuli, those perceptions can be influenced by emotions, genetics and social connections.

Clinical Pearls:

- Our reaction to pain has a considerable impact on the amount of pain that we experience.
- Strategies to counter this include meditation, guided imagery, or biofeedback. One standardized approach is mindfulness-based stress reduction (MBSR).
- The BC Association for Living Mindfully (<http://www.bcalm.ca/>) advertises MBSR classes in BC, as does MBSR BC (<http://www.mbsrbc.ca/>).
- Guided imagery is another form of meditation that has been shown to reduce postoperative pain and pain related to fibromyalgia (<http://bit.ly/2zsZPH1>)
- Movement-oriented forms of meditation, i.e., tai chi and low-intensity yoga (e.g., Iyengar yoga), have also been shown to improve physical functioning and psychological health, and decrease pain in sedentary adults with osteoarthritis and/or rheumatoid arthritis.

Osteoporosis Screening: Are Utilization Rates Too High, Too Low or Just Right?

The August issue of The Rheumatologist summarized 2 U.S. studies highlighting the underutilization of osteoporosis screening (<http://bit.ly/2v5le8e>).

Clinical Pearls:

- The screening of younger women, for whom universal screening is not recommended, has been falling.
- While there has been greater screening of women in the older age groups, the low screening rate for women 65 and older is still problematic. One study found low screening utilization rates, with only 9.9% of women receiving bone mass

measurement within 6 months of fracture and 12.7% within 12 months of fracture.

- MPAPs Victoria Arthritis Clinic has a 7-session Osteoporosis Rehabilitation Program that includes education and exercise classes. Information on this program can be obtained by emailing Michael at Michael.Pohlmann@vch.ca.

New Assessment Videos Now Available on the MPAP Website

Need a quick reminder of skills that you once learned at a past ACE Assessment & Management of Rheumatic Diseases course? If so, we've created two new resource materials that may help.

1. **Assessment of the Foot with Inflammatory Arthritis** - this 10-minute video focuses on two important components of a foot assessment. In the first part, each joint is assessed for the presence of active inflammation. Next, the biomechanical structure of the foot is examined to determine if there is an underlying anomaly that could contribute to foot dysfunction - <http://bit.ly/2AA6pt5>
2. **Spondyloarthritis (SpA) Spinal Assessment** - this 8-minute video demonstrates 8 spinal measurements for a SpA patient with inflammatory back pain. There is also an accompanying SpA Assessment Form. Based on your assessment, related exercises can be found online in the SpA Exercise Program booklet - <http://bit.ly/2zs32GZ>

What is the Educational Quality of YouTube Videos?

A recent study analyzed the quality of CMC OA thumb exercise YouTube videos. Videos were categorized by technique, duration of video, age of video and total views.

Clinical Pearls:

- 8 videos were found that clearly demonstrated exercises for thumb CMC OA and had been posted on YouTube by health professionals or institutions from inception to March 2017.
- Most videos achieved a score of less than 3 points, and thus were assessed to be of low quality. Only 1 of the 8 videos was rated as being of excellent quality.
- The majority of thumb CMC OA exercise videos were assessed to be of poor quality because the directions provided were not comprehensive or based on the best scientific evidence. This highlights the importance of clinicians directing clients to video sources that demonstrate best practice when using YouTube as a patient teaching tool.
- The original article can be found on Google Scholar:
Villafañe, Jorge Hugo, et al. "Educational Quality of YouTube Videos in Thumb Exercises for Carpometacarpal Osteoarthritis: A Search on Current Practice." *HAND* (2017): 1558944717726139.

Does Knowledge of Risk Motivate Patients to Take Action?

New developments in healthcare offer patients the potential to see into the future. For example, in the field of genetics, research continues to identify more comprehensive sets of genetic markers associated with the risk of developing various health conditions. Related developments have seen the creation of various health risk calculators, such as the online risk calculator to determine one's chance of developing knee OA or having to undergo Total Knee Replacement surgery (see August issue of the ACE Clinical Link). An important question is whether knowing one's risk is likely to motivate health behaviour change.

Clinical Pearls:

- A meta-analysis by Hollands et al. published in BMJ (2016) (<http://bit.ly/2w87iaP>) found that communicating information on genetic risks of disease did not have an impact on changing risk-reducing health behaviours.
- A meta-analysis in the Psychological Bulletin (2014) sought to learn whether heightening risk appraisals changed people's intentions and behaviour.
- The study found that communication that makes people (a) believe they are at risk, (b) feel worried about the threat, (c) feel guilty if they do not act, or (d) believe that the harm would be severe, will have a modest impact on behaviour change.
- Messages that successfully heightened more than one of these elements of risk appraisal had larger effects on outcome than messages that only heightened a single element.
- The largest effects on behaviour were found when messages succeeded in boosting coping appraisals, as well as in heightening risk appraisals.

Is a Vaccine for Arthritis on the Horizon?

The August 2017 issue of The Rheumatologist (<http://bit.ly/2xIUkZq>) described work at the basic science level that may lead to a future vaccine for arthritis. The impetus for this research is the fact that while biologic DMARDs have revolutionized the treatment of inflammatory arthritis, a major detriment is that these medications leave the immune systems of those who use them vulnerable to infection. The aim of this new research is to edit an individual's genes so that the cells themselves can be made to produce an anti-inflammatory drug.

Clinical Pearls:

- Genomic engineering technology can recode how a cell behaves in the presence of inflammation. More specifically, when the rewired cell encounters Tumor Necrosis Factor (TNF), it triggers the production of a substance that blocks TNF. These cells have been shown to be adjustable to the level of inflammation in the environment, and to cease production of the TNF-blocking substance when it is no longer required.
- Research has also shown that a similar process can be used to create cells that respond autonomously to other pro-inflammatory cytokines, such as interleukin 1.
- Researchers are currently testing these cells in several different mouse models of arthritis to ensure their safety and efficacy. If successful, human trials could potentially begin several years from now.

Articles of Interest

Bennell KL, Nelligan R, Dobson F, et al. Effectiveness of an Internet-Delivered exercise and pain-coping skills training intervention for persons with chronic knee pain: A randomized trial. *Annals of Internal Medicine* 2017;166(7):453-462. The aim of this study was to evaluate the effectiveness of an Internet-based intervention combining physiotherapist-prescribed home exercise delivered via videoconferencing and automated pain-coping skills training (PCST) in persons with chronic knee pain. The intervention group was found to have a significantly greater improvement in pain and physical function than the control group at 3 months & improvements were sustained at 9 months. Participants were also highly satisfied with the intervention. Lastly, uptake of and adherence to Skype physiotherapy and PainCoach were excellent, and home exercise adherence was consistent with that reported for face-to-face physiotherapy.

Palmowski Y, Buttgerit T, Dejaco C, et al. “Official View” on glucocorticoids in rheumatoid arthritis: A systematic review of international guidelines and consensus statements. *Arthritis Care & Research* 2017;69(8):1134-1141. This study examined the current role of systemic glucocorticoids in the treatment of rheumatoid arthritis (RA) as described in recent international guidelines and consensus statements. 15 papers were eligible for inclusion. In conclusion, while there is overall agreement about the potential usefulness of systemic glucocorticoids for the treatment of RA, especially at low doses and for short durations, the role of glucocorticoids in the management of RA continues to be addressed with caution. There is a shortage of specific recommendations for glucocorticoid therapy due to a lack of reliable evidence.

Losina E, Michl GL, Smith KC, Katz JA. Randomized controlled trial of an educational intervention using an online risk calculator for knee osteoarthritis: Effect on risk perception. *Arthritis Care & Research* 2017;69(8):1164-1170. This study tested the efficacy of a personalized risk calculator on accuracy of knee OA risk perception and willingness to change behaviours associated with knee OA risk factors. Prior to the intervention, both the control and the intervention group highly overestimated their risk of developing knee OA in 10 years and over the course of their lifetime. Use of the OA Risk Calculator resulted in a more accurate perception of knee OA risk. Those who used the OA Risk Calculator were also more likely to move to an action stage on a contemplation ladder for increasing exercise. However, there was no difference between the control arm and the risk calculator arms in the percentage of participants who moved to an action stage for monitoring their diet or controlling their weight. The authors have concluded by stating that the OA Risk Calculator - <http://calculator.oarisk.org/> may be a successful tool for raising awareness of knee OA risk and fostering increased motivation to change exercise-related behaviours that are associated with OA risk.

Cooper C, Rannou F, Richette P, et al. Use of intraarticular hyaluronic acid in the management of knee osteoarthritis in clinical practice. *Arthritis Care & Research* 2017;69(9):1287-1296. The European Society for Clinical and Economic Aspects of Osteoporosis and Osteoarthritis (ESCEO) created an international task force of experts in OA with the aim of preparing a review on diverse aspects of the use of Intraarticular Hyaluronic Acid (IAHA) in the management of knee osteoarthritis (KOA). The purpose of this article was to provide specialists and practicing physicians with clear, concise and reasoned answers to questions related to the use of IAHA in the management of KOA.

Efficacy - High-quality trials have shown a clear efficacy of IAHA at 8 and 24 weeks post-injection.

Effectiveness - For patients who received repeated treatments of IA hylan, pain at rest and pain after a 6-minute walk decreased by a mean \pm SD 3.7 ± 1.8 points and 5.6 ± 1.7 points on a 10-point visual analog scale, respectively. As well, the distance walked in a 6-minute walk test increased by 115 meters in this group.

Safety - After almost 30 years of use, IAHA is recognized as a safe treatment modality for KOA.

Systematically repeated treatment - The ESCEO task force encouraged the use of repeated cycles of IAHA in patients who responded to the first injection, starting new treatment cycles as soon as the first symptoms occur.

Molecular weight - There is no clinical evidence to suggest that any one preparation is more efficacious than another.

Jones GT, Ratz T, Dean LE, et al. Disease severity in never smokers, ex-smokers, and current smokers with axial spondyloarthritis: Results from the Scotland Registry for Ankylosing Spondylitis. *Arthritis Care & Research* 2017;69(9):1407-1413. The rationale for this study is the fact that previous research has not shown beyond a doubt that smoking is causally associated with poorer disease outcomes, rather than being a marker for patients with generally poorer lifestyles. The study involved 946 individuals. Ever smokers reported having significantly poorer disease activity, function, and metrology. Ever smokers also had a 1.5-point increase in ASQoL score, indicating poorer disease-specific quality of life. Ex-smokers were more likely to have a prior history of uveitis. Ex-smokers reported having a significantly lower disease activity score than current smokers. Lastly, smoking cessation was associated with significant improvements in disease-specific quality of life.

Sliepen M, Brandes M, Rosenbaum D. Current physical activity monitors in hip and knee osteoarthritis: A review. *Arthritis Care & Research* 2017;69(10):1460-1466. This article notes that activity monitors have the potential to measure 4 dimensions of physical activity (PA): frequency (how many single events over time period), intensity (energy expenditure of a single event), time (duration of a single event), and type (of activity). The aim of this review was to provide a current overview of PA monitors used within hip and knee OA research. The search identified 118 eligible articles that utilized 15 different devices. The authors noted that the validation of devices solely in healthy populations could lead to an erroneous reflection of the device's true validity for lower-leg OA patients, given that knee and hip OA may lead to abnormalities in gait dynamics and increased energy expenditures during walking compared to healthy individuals. Another area where devices may fall short is in their ability to measure sedentary behaviour, as some devices rely on surrogate measures to detect sedentary behaviour.