

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

### Editor's Message

If anything you read sparks questions or comments, please get in touch [Paul.Adam@vch.ca](mailto:Paul.Adam@vch.ca).

### Highlights of the 2017 ACR/ARHP Annual Meeting

I attended the annual meeting in San Diego in early November. Physical activity was a major theme of this year's meeting with many sessions on this topic. Below were my highlights.

#### Exercise is Medicine: The Science of Sneaker Power by Dr. Teresa Brady

- There is an “inactivity problem” in arthritis. In 2015, only 36% of Americans with arthritis were meeting the physical activity guidelines of 150 minutes per week of moderate-intensity aerobic activity AND only 18% were engaging in 2 days/week of muscle strengthening of 7 major muscle groups.
- Some activity is better than none for people with arthritis. Research found that a min threshold of 45 minutes of moderate physical activity per week can improve/sustain function for adults with lower limb joint symptoms. Walking >6000 steps/day protects against developing functional limitation in people with/at risk of knee OA.
- Sedentary behaviour is any waking behaviour characterized by an energy expenditure  $\leq 1.5$  Metabolic Equivalents (METS) while in a sitting or reclining posture, e.g., sitting, reading, driving. Therefore, someone can meet physical activity guidelines yet still be considered sedentary. Thus, the need to Sit Less and Move More.
- American data (2014) indicated that only 61% of people with arthritis reported receiving provider counselling to increase physical activity.
- Barriers to exercise include uncertainty as to the type and how much exercise is required, a belief that one's arthritis is not yet bad enough to warrant exercise, and a fear that exercise will make arthritis worse.
- Facilitators of exercise include a partner to stay motivated and having a defined prescription (i.e., how many days/week and how many minutes/day).
- The promotion of physical activity is a role that all health care providers need to embrace. Common behaviour change techniques across the 5 A's, Brief Action Planning, and Motivational Interviewing include:
  - Building a collaborative partnership
  - Asking permission before advising and counselling (i.e., are they open to discussing how to be more physically active)
  - Starting where the patient is at
  - Arranging follow-up, if desired
  - Striving for repeated small successes (i.e., maybe not meeting guidelines, but at least sitting less and moving more)

Take-home messages:

<b>Research Findings</b>	<b>Practice Implications</b>
Most people are aware that physical activity is important.	
Most will say that they are physically active, but for many this means that they are “busy all day”	<i>Describe what is meant by moderate physical activity. It’s not just being busy all the time, but work hard enough to get one’s heart rate up.</i>
Variable belief in the benefits for arthritis – e.g., some concerned that exercise might make their arthritis worse, or worried that they shouldn’t exercise when they’re in pain.	<i>Address fears and other psychological barriers.</i>
Most told by their doctor to exercise, but not given specifics (i.e., not sure what type and how much physical activity they should be doing).	
Most unaware of specific program that would be appropriate for people with arthritis.	<i>Refer to community-based arthritis-appropriate exercise programs.</i>
People prefer self-directed vs. structured physical activity.	
Some believe that they need a partner to stay motivated.	
30 minutes of physical activity 5 days/week sounds more doable than 150 minutes of exercise/week. And current non-exercisers find 10 minute bouts of exercise three times a day more doable than 30 minutes of exercise/day.	<i>Encourage 10-minute increments, if necessary.</i>
Exercisers actually identify facing more barriers, but they’re better at problem-solving ways of addressing these barriers.	<i>Teach problem-solving skills.</i>

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**Mobility: Why this functional outcome matters in rheumatology (Dr. Stephanie Studenski)**

- Mobility limitations are the most common contributor to disability in older adults.
  - Mobility can be assessed by objective performance tests and/or by self-report.
  - For clinical use, a standing start 4-meter walk at usual pace recorded to the closest 0.1 second is predictive of many clinical outcomes.
  - Gait speed is predictive of survival across varying disease populations, genders and ethnicities.
  - People who experienced increased gait speed, regardless of baseline, had increased survival.
  - Gait speed is also predictive of future dementia onset.
  - Suggestion that mobility is an important measure in all patients, as it may provide insight on how to plan care and evaluate intervention effects.
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## How can we use physical activity interventions to improve physical function? (Dr. Daniel White)

- In a UK study, only 17.6% of adults attending a rheumatology clinic were aware of physical activity (PA) guidelines. These individuals also had difficulty understanding the difference between moderate vs. light activity (O'Dwyer et al 2014).
- Steps/day is another way of conceptualizing PA. A weekly step count translates into PA level at the following rate:  $\leq 5000$  (sedentary), 5000 – 7499 (low-active), 7500 – 9999 (somewhat active), 10000 – 12499 (active),  $\geq 12500$  (highly active).
- In osteoarthritis patients, there was a dose response relationship between amount of PA (as measured in steps/day) and incident functional limitation (White et al, ACR 2014).
- Compendium of physical activities web site:  
[www.sites.google.com/site/compendiumofphysicalactivities](http://www.sites.google.com/site/compendiumofphysicalactivities)

### Take Home Messages: How do we best message PA to our patients?

- “Some is good. More is better.”
  - Measuring PA, e.g., through the use of a pedometer, acts to increase activity behaviour.
  - Having a step goal acts to increase activity behaviour. In an intervention that compared a self-directed step goal vs. 10,000 steps/day goal vs. 3000 steps in a 30-minute bout goal, the latter led to a greater change in time spent in moderate-vigorous PA (MVPA).
  - Reasonable to ask patients to go for a 10-minute walk/day with a goal of hitting 1000 steps in 10 minutes. Wallis et al 2015 found that the maximum dose of walking for people with severe knee OA is 70 minutes/week.
  - Research has found that those who walk  $\geq 6000$  steps/day are less likely to develop future functional limitations than those who did not.
  - Consider a referral to physical therapy for those who take  $\geq 12$  seconds to do a ‘Five time sit to stand test’, as these patients are highly unlikely to be able to walk  $\geq 6000$  steps/day.
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## Fitness with Fatigue and Persistent Pain by Dr. Daniel Clauw

- In one study, fatigue in RA was best directly related to poor sleep and less physical functioning, and indirectly affected by sense of control, mood, and pain.
- British data has found that of those RA patients achieving full disease remission, 63% still reported significant levels of fatigue.
- Some studies have shown that with OA patients, fatigue can be more limiting than pain.
- Exercise has been shown to reduce inflammation through the upregulation of anti-inflammatory cytokines.
- People with a rheumatic disease with prominent fatigue may also have symptoms that are associated with Fibromyalgia (FM). Currently, FM is thought of as a continuum or as a degree of Fibromyalgiansess. Fibromyalgiansess can be scored from 0 – 31.
- In studies of OA patients getting knee or hip replacement surgery, each 1-point increase in fibromyalgiansess led to a greater need for opioids in the first 24 hours after surgery and a 20 – 25% greater likelihood of failing to respond to knee or hip arthroplasty (determined by either 50% improvement in pain or much better or very much better on patient global assessment). These findings were relevant through the full continuum, even including those with very low scores of fibromyalgiansess.

- Across many medical conditions, activity/exercise is likely the most effective treatment for fatigue, other than treating the underlying disease.
  - “Start low and go slow” exercise programs used to treat fatigue have very few side effects, and/or the benefits are considered to exceed the risks. This has been shown in recent meta-analyses of lupus, and other non-arthritis chronic diseases.
  - Patients are more likely to be open to becoming more active than increasing their level of exercise.
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### **Fitness interventions for fatigue and pain: Navigate your patients’ challenges by Dr. David Williams**

- Discussion about exercise with patients needs to be patient-centric:
    - Merits – the merits of exercise are fairly well known
    - Barriers – helping patients to problem solve their barriers to exercise
    - Motivation – what would your patient consider to be motivating?
    - Rewards – what would your patient consider to be rewarding?
    - How to get started – the F.I.T.T. principle: *Frequency* (number of days/week), *Intensity* (how hard the activity feels), *Time* (the total time doing the activity), and *Type* (the kind of physical activity)
  - Frequency – 1 to 2 days/week for maintenance, while 3 or more days/week will result in greater, noticeable benefits.
  - Intensity – Start low and go slow. Cues to help determine intensity include heart rate, breathlessness, muscle fatigue, and degree of sweat. Ideal intensity is a rate of perceived effort of 1.5 – 2.5 on the effort scale (a point that is slightly more difficult than ‘quite easy’, but not as difficult as ‘quite hard’).
  - Time – Start low and go slow. Daily activity can be completed in one long bout (30 min) or several short bouts (10 min each).
  - Type – Aerobic exercise, strength training, movement therapies (Tai Chi, Yoga)
  - One strategy for patients who are resistant to physical activity is to begin with pleasant activity scheduling, i.e., having the patient identify something fun that s/he wants to schedule into their life on a regular basis. This can be a first step towards building physical activity into their life.
  - Time-based pacing (i.e., determining how much activity can be done without triggering a flare) is likely more effective than pacing that entails alternating activity and rest.
  - Online resource to promote living well with fibromyalgia (including physical activity) is called FibroGuide – <http://fibroguide.med.umich.edu/>
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### **Moving toward better osteoarthritis management by Dr. Kelli Allen**

- Current OA management goals include clinically meaningful improvement in symptoms and function, slowing disease / symptom progression, and helping patients thrive in their daily activities.
- There are many sets of treatment recommendations including those produced by the American College of Rheumatology (ACR), European League Against Rheumatism (EULAR), Osteoarthritis Research Society International (OARSI), and others.

- These guidelines are largely in agreement about core treatments and they're based on systematic reviews of research findings.
  - Raveendran & Nelson (NCMJ, 2017) categorize their knee OA treatment recommendations into core recommendations (i.e., always recommended), recommended for most situations (i.e., if appropriate for clinical situation, co-morbidities, etc.), consider in some situations (i.e., in specific patient populations or presentations), not recommended, and controversial across guidelines / insufficient data / not addressed.
  - Guidelines generally have limited specificity and practical guidance in terms of physical therapy (i.e., when, how often, how much), joint replacement (i.e., when to refer / appropriateness), and when to modify or "escalate" treatment.
  - In an attempt to provide more specificity, Meneses et al. (Osteoarthritis & Cartilage, 2016) used an algorithmic-based approach for knee OA management, including when to refer to physical therapy and when to consider joint replacement surgery.
  - We are generally failing to meet key OA quality indicators (Li, 2011).
  - Better OA management should consider:
    - Reach – more emphasis on evidence-based mobile health interventions, and greater attention to vulnerable populations
    - Effectiveness – identifying the most effective treatments
    - Adoption – greater promotion of shared decision-making
    - Implementation – utilization of feasible interdisciplinary models
    - Maintenance – helping patients sustain lifestyle changes over the long term
  - Osteoarthritis Action Alliance (OAAA) – <http://oaaction.unc.edu/> – this site has a variety of resources of interest to health care providers (e.g., outcome measures, tools, educational events) and patients (e.g., information on exercise, weight loss, and more).
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### **Physical activity and psychosocial aspects of arthritis (Dr. Patricia Katz)**

- There are strong relationships between physical activity and depression in the general population such that there is a 50% greater chance of depression in someone who is inactive vs. active. Similarly, people with high amounts of sedentary behaviour are also at greater risk of depression than are people with moderate or low levels of sedentary behaviour. Interestingly, people who meet physical activity guidelines, but who have higher levels of sedentary behaviour, are also at a greater risk of developing depression.
- People with lupus who were inactive were significantly more likely to meet depression criteria than were people with lupus who met physical activity guidelines.
- Meta-analyses show large effect sizes for the impact of physical activity interventions on depression (effect sizes ranging from 0.72 – 1.42).
- A systematic review of community-based exercise programs for people with OA, RA, FM or lupus found that exercise programs brought about significant and meaningful improvements in depressive symptoms.
- Pain, fatigue, poor function, inflammation, poor sleep, and obesity are all thought to have a negative impact on depression, independent of each other. And research has shown that physical activity can have a positive impact on each of these factors.

- Cognitive impairment is high in fibromyalgia and lupus, and there is a growing recognition that it may also be a problem in RA. Robust association of greater activity protecting from cognitive impairment in the general population.
- No clear evidence on what type of exercise is the most beneficial for depression, although the best evidence supports moderate intensity aerobic activity, such as walking. Start slow (e.g., 10 minutes) and gradually increase.
- Individuals who are depressed may need more support in beginning a physical activity program and in maintaining it, at least in the initial stages.